

Syllabus for MBBS Programme



Guru Gobind Singh Indraprastha University

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University School of Medicine and Allied Health Sciences



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भारतीय आयुर्विज्ञान परिषद के अधिक्रमण में

शासी बोर्ड

संशोधन अधिसूचना

नई दिल्ली, 4 नवम्बर, 2019

सं. भा.आ.प.-34(41)/2019-मेड./161726.—भारतीय आयुर्विज्ञान परिषद अधिनियम, 1956 (1956 का 102) की धारा 33 द्वारा प्रदत्त शक्तियों का इस्तेमाल करते हुए, भारतीय आयुर्विज्ञान परिषद के अधिक्रमण में शासी बोर्ड, "स्नातक चिकित्सा शिक्षा विनियमावली, 1997" में पुनः संशोधन करने के लिए केंद्र सरकार की पूर्व स्वीकृति से एतद्वारा निम्नलिखित विनियम बनाती है, नामतः—

1. (i) ये विनियम, "स्नातक चिकित्सा शिक्षा विनियमावली (संशोधन), 2019" कहे जाएंगे।
(ii) ये सरकारी राजपत्र में उनके प्रकाशन की तारीख से प्रवृत्त होंगे।
2. स्नातक चिकित्सा शिक्षा विनियमावली, 1997 के खंड 1 के रूप में निम्नलिखित जोड़ा जाएगा:
(i) स्नातक चिकित्सा शिक्षा विनियमावली, 1997 में अध्याय I से V में दिए गए खंड 2 से 14 और उसमें संलग्न परिशिष्टों तथा अनुसूचियों को, विनियमावली के भाग I के रूप में शामिल किया जाएगा। ये उपबंध, शैक्षिक वर्ष 2018-19 तक एमबीबीएस पाठ्यक्रमों में दाखिल किए गए बैचों के संबंध में नियंत्रण विनियम होंगे।

- (ii) भाग II, जिसमें निम्नलिखित अध्याय दिए गए हैं, को स्नातक चिकित्सा शिक्षा विनियमावली, 1997 में जोड़ा जाएगा, जो शैक्षिक वर्ष 2019-20 से एमबीबीएस पाठ्यक्रम में दाखिल किए गए बैचों के संबंध में नियंत्रण विनियम होंगे।
3. स्नातक चिकित्सा शिक्षा विनियमावली, 1997 के भाग II के रूप में निम्नलिखित जोड़ा जाएगा:

“भाग II

**शैक्षिक वर्ष 2019-20 से आरंभ होने वाले एमबीबीएस पाठ्यक्रमों के लिए
स्नातक चिकित्सा शिक्षा विनियमावली, 1997**

भाग II

खंडों का क्रम

अध्याय I

सामान्य विचार और अध्यापन दृष्टिकोण

1. प्रस्तावना
2. भारतीय चिकित्सा स्नातक प्रशिक्षण कार्यक्रम के उद्देश्य
 - 2.1. राष्ट्रीय लक्ष्य
 - 2.2. संस्थागत लक्ष्य
 - 2.3. शिक्षार्थी के लिए लक्ष्य और भूमिकाएं
3. भारतीय चिकित्सा स्नातक का सक्षमता आधारित प्रशिक्षण कार्यक्रम
4. प्रशिक्षण फॉर्मेट पर व्यापक रूपरेखा

अध्याय II

भारतीय चिकित्सा स्नातक कार्यक्रम में दाखिला :

**राष्ट्रीय पात्रता व प्रवेश परीक्षा
और सामूहिक काउंसलिंग**

5. भारतीय चिकित्सा स्नातक कार्यक्रम में दाखिला

अध्याय III**स्थानांतरण**

6. स्थानांतरण

अध्याय IV**व्यावसायिक विकास के लिए
चरण-वार प्रशिक्षण और समय वितरण**

7. प्रशिक्षण अवधि और समय वितरण
8. चरण वितरण और परीक्षा का समय
9. नया अध्यापन/ज्ञानार्जन कारक
- 9.1. फाउंडेशन पाठ्यक्रम
- 9.2. आरंभिक नैदानिक अनुभव
- 9.3. वैकल्पिक
- 9.4. मनोवृत्ति, नैतिकता और संचार मॉड्यूल (एटकाँम) सहित व्यावसायिक विकास
- 9.5. नैदानिक प्रशिक्षण की शिक्षार्थी-डाक्टर पद्धति (नैदानिक क्लर्कशिप)

अध्याय V**भारतीय चिकित्सा स्नातक कार्यक्रम की सक्षमता आधारित पाठ्यचर्या**

10. विशिष्ट सक्षमताएं
- 10.1. आमुख
- 10.2. एकीकरण
- 10.3. नैदानिक-पूर्व विषय
- 10.4. द्वितीय व्यावहारिक (पैरा-नैदानिक)
- 10.5. तृतीय व्यावसायिक (भाग I)
- 10.6. तृतीय व्यावसायिक (भाग II)

अध्याय VI**मूल्यांकन**

11. मूल्यांकन
- 11.1. व्यावसायिक परीक्षाओं में बैठने हेतु पात्रता
- 11.2. विश्वविद्यालय परीक्षाएं

अध्याय VII**इंटरनशिप**

12. इंटरनशिप
 - 12.1. लक्ष्य
 - 12.2. उद्देश्य
 - 12.3. समय वितरण
 - 12.4. अन्य व्योरे
 - 12.5. इंटरनशिप का मूल्यांकन
 - 12.6. इंटरनशिप – विधा संबंधी

अध्याय I**सामान्य विचार और प्रशिक्षण दृष्टिकोण****1. प्रस्तावना**

इन विनियमों के भाग II में दिए गए उपबंध, शैक्षिक वर्ष 2019-20 से आरंभ होने वाले एमबीबीएस पाठ्यक्रम पर लागू होंगे।

2. भारतीय चिकित्सा स्नातक प्रशिक्षण कार्यक्रम

स्नातक-पूर्व चिकित्सा शिक्षा कार्यक्रम, अपेक्षित ज्ञान, कौशल, मनोवृत्ति, मूल्य और प्रत्युरात्मकता से युक्त "भारतीय चिकित्सा स्नातक" (आईएमजी) सृजित करने के लक्ष्य से तैयार किया गया है ताकि वह वैश्विक रूप से सुसंगत रहते हुए समुदाय के प्रथम संपर्क के चिकित्सक के रूप में समुचित और प्रभावी ढंग से कार्य कर सके। इसे प्राप्त करने के लिए भारतीय चिकित्सा स्नातक प्रशिक्षण कार्यक्रम के शिक्षार्थी के लिए निम्नलिखित राष्ट्रीय और संस्थागत लक्ष्य एतद्वारा विनिर्धारित किए जाते हैं:

2.1 राष्ट्रीय लक्ष्य

स्नातक-पूर्व कार्यक्रम के अंत में भारतीय चिकित्सा स्नातक निम्नलिखित में समर्थ होना चाहिए:

- (क) एक राष्ट्रीय लक्ष्य और सभी नागरिकों के स्वास्थ्य अधिकार के रूप में "सभी के लिए स्वास्थ्य" को स्वीकार करना और चिकित्सा व्यवसाय के लिए प्रशिक्षण प्राप्त करके यह लक्ष्य पूरा करने के प्रति अपने सामाजिक दायित्व पूरे करना।
- (ख) स्वास्थ्य पर राष्ट्रीय नीतियों का प्रत्येक पहलू सीखना और इसके व्यावहारिक कार्यान्वयन के प्रति स्वयं को समर्पित करना।
- (ग) हॉलिस्टिक मेडिसिन की पद्धति में सक्षमता प्राप्त करना, जिसमें सामान्य रोगों के समर्थक, निवारक, उपचारात्मक और स्वास्थ्य लाभप्रद पहलू शामिल हैं।
- (घ) वैज्ञानिक स्वभाव विकसित करना, व्यवसाय में दक्षता के लिए शैक्षिक अनुभव प्राप्त करना और स्वस्थ जीवन को प्रोत्साहित करना।

- (ड) चिकित्सा नैतिकता का पालन करके और सामाजिक तथा व्यावसायिक दायित्व पूरे करके अनुकरणीय नागरिक बनना ताकि राष्ट्रीय आकांक्षाओं के प्रति प्रतिक्रिया दिखा सकें।

2.2 संस्थागत लक्ष्य

- (1) राष्ट्रीय लक्ष्यों के अनुरूप प्रशिक्षित जन शक्ति (या व्यावसायिक), जो वे उत्पन्न करना चाहते हैं, का प्रकार परिभाषित करने के लिए प्रत्येक चिकित्सा संस्थान के संस्थागत लक्ष्य तैयार करने चाहिए। किसी चिकित्सा संस्थान से बाहर आने वाले भारतीय चिकित्सा स्नातकों को निम्नलिखित होना चाहिए:
- (क) इतिवृत्त, शारीरिक परीक्षण और सुसंगत जांचों के आधार पर अपने नैदानिक कौशलों का इस्तेमाल करके प्राथमिक, द्वितीयक या तृतीयक स्तरों पर स्वास्थ्य के एक सदस्य के रूप में अपने पद के अनुरूप व्यक्ति और समुदाय की सामान्य स्वास्थ्य समस्याओं के निदान और नियंत्रण में सक्षम होना।
- (ख) सामान्यतः सामना की जाने वाली स्वास्थ्य समस्याओं के संबंध में निवारक, समर्थक, उपचारात्मक, प्रशामक और स्वास्थ्य लाभप्रद प्रैक्टिस करने में सक्षम होना।
- (ग) भिन्न-भिन्न चिकित्सीय रूपात्मकताओं के तर्काधार का मूल्यांकन करना, "आवश्यक औषधियों" और उनके सामान्य प्रतिकूल प्रभावों के प्रबंधन से परिचित होना।
- (घ) स्वास्थ्य को प्रभावित करने वाले सामाजिक-मनोवैज्ञानिक, सांस्कृतिक, आर्थिक और पर्यावरणीय कारकों का मूल्यांकन करने में समर्थ होना और अपनी व्यावसायिक जिम्मेदारियों का निर्वहन करने में मरीजों के प्रति मानवीय मनोवृत्ति विकसित करना।
- (ड) निरंतर स्व-ज्ञानार्जन और आगे विशेषज्ञता प्राप्त करने या मेडिसिन, कार्रवाई अनुसंधान और दस्तावेजीकरण कौशलों के किसी चुने गए क्षेत्र में अनुसंधान करने के लिए मनोवृत्ति रखना।
- (च) ऐसे मौलिक कारकों से परिचित होना, जो निम्नलिखित के व्यावहारिक पहलुओं सहित राष्ट्रीय स्वास्थ्य कार्यक्रमों के कार्यान्वयन के लिए आवश्यक हैं:
- (i) परिवार कल्याण और मातृत्व एवं बाल स्वास्थ्य (एमसीएच)
 - (ii) स्वच्छता और जलापूर्ति
 - (iii) संक्रामक और गैर-संक्रामक रोगों की रोकथाम और नियंत्रण
 - (iv) प्रतिरक्षण
 - (v) स्वास्थ्य शिक्षा
 - (vi) ऐसी सुपुर्दगी के विभिन्न स्तरों पर भारतीय जन स्वास्थ्य मानक (आईपीएचएस)
 - (vii) जीव-चिकित्सीय अपशिष्ट निपटान
 - (viii) संगठनात्मक और/या संस्थागत व्यवस्थाएं
- (छ) मानव संसाधनों, सामग्रियों और स्वास्थ्य देखभाल प्रदायगी, अस्पताल प्रबंधन, माल-सूची कौशलों और काउंसलिंग से संबंधित संसाधन प्रबंधन के क्षेत्र में मौलिक प्रबंधन कौशल प्राप्त करना।

- (ज) सामुदायिक स्वास्थ्य समस्याओं का पता लगाने और सुधारात्मक कदम तैयार करके, स्थापित करके और इन उपायों के परिणाम का मूल्यांकन करके इनका हल निकालने के लिए कार्य करना सीखने में समर्थ होना।
 - (झ) स्वास्थ्य सुरक्षा दलों में एक अग्रणी साझेदार के रूप में कार्य करने और संचार कौशलों में दक्षता प्राप्त करने में समर्थ होना।
 - (ञ) विभिन्न स्वास्थ्य सुरक्षा स्थापनाओं में कार्य करने में सक्षम होना।
 - (ट) व्यक्तिगत सत्यनिष्ठा, जिम्मेदारी की भावना और आश्रितता तथा अन्य व्यक्तियों के लिए सरोकार दिखाने या जोड़ने की योग्यता जैसे व्यावसायिक जीवन के लिए अपेक्षित व्यक्तिगत गुण और मनोवृत्ति रखना।
- (2) चिकित्सा स्नातक की सारणी 11 में विस्तारपूर्वक वर्णित कौशल, प्रमाणित किए जाने योग्य प्रक्रियात्मक कौशल तथा शल्य-विज्ञान स्नातक (एमबीबीएस) – भारतीय चिकित्सा स्नातक के लिए वांछनीय के रूप में संस्तुत कौशलों की एक व्यापक सूची दी गई है, प्राप्त करने के लिए साधन संपन्न करने के सभी प्रयास किए जाने चाहिए।

2.3 शिक्षार्थी के लक्ष्य और भूमिकाएं

आईएमजी प्रशिक्षण कार्यक्रम के लक्ष्य को पूरा करने के लिए, चिकित्सा स्नातक को निम्नलिखित भूमिकाओं में उचित और प्रभावी रूप से कार्य करने में सक्षम होना चाहिए:

- 2.3.1 ऐसा निदानकर्ता, जो निवारक, समर्थक, उपचारात्मक, प्रशामक और अनुकंपा के साथ हॉलिस्टिक देखभाल करता है और उपलब्ध कराता है।
- 2.3.2 स्वास्थ्य आंकड़े समुचित ढंग से एकत्र करने, उनका विश्लेषण करने, संश्लेषित करने और संचारित करने की सक्षमताओं के साथ स्वास्थ्य सुरक्षा दल और प्रणाली का अग्रणी और सदस्य।
- 2.3.3 मरीजों, परिवारों, सहयोगियों और समुदाय के साथ संचारक।
- 2.3.4 कौशल और ज्ञान के निरंतर सुधार के प्रति प्रतिबद्ध आजीवन शिक्षार्थी।
- 2.3.5 ऐसा व्यवसायविद, जो उत्कृष्टता के प्रति प्रतिबद्ध है, मरीजों, समुदाय और व्यवसाय के प्रति नैतिकपूर्ण, प्रत्युत्तरात्मक और जवाबदेह है।

3. भारतीय चिकित्सा स्नातक का सक्षमता आधारित प्रशिक्षण कार्यक्रम

सक्षमता आधारित ज्ञानार्जन में, ऐसी चिकित्सा शिक्षा पाठ्यचर्या तैयार करना और उसे कार्यान्वित करना शामिल होगा, जिसमें जीवन की वास्तविक स्थितियों में अपेक्षित और अवलोकनयोग्य योग्यता पर ध्यान केंद्रित किया गया हो। खंड 2 में यथा सूचीबद्ध भूमिकाएं प्रभावी ढंग से पूरी करने की दृष्टि से, भारतीय चिकित्सा स्नातक को, स्नातक होने के समय सक्षमताओं का निम्नलिखित सेट प्राप्त किया हुआ होना चाहिए:

- 3.1 **ऐसा निदानकर्ता, जो निवारक, समर्थक, उपचारात्मक, प्रशामक और अनुकंपा के साथ हॉलिस्टिक देखभाल करता है और उपलब्ध कराता है**
 - 3.1.1 एक आण्विक, कोशिकीय, जैविक, नैदानिक, व्यवहारजन्य और सामाजिक परिप्रेक्ष्य से सामान्य मानव संरचना, कार्य और विकास की जानकारी प्रदर्शित करना।

- 3.1.2 एक आण्विक, कोशिकीय, जैविक, नैदानिक, व्यवहारजन्य और सामाजिक परिप्रेक्ष्य से असामान्य मानव संरचना, कार्य और विकास की जानकारी प्रदर्शित करना।
- 3.1.3 चिकित्सीय-विधिक, सामाजिक, नैतिक और मानवीय सिद्धांतों, जो स्वास्थ्य सुरक्षा को प्रभावित करते हैं, की जानकारी प्रदर्शित करना।
- 3.1.4 राष्ट्रीय स्वास्थ्य मिशन, जिसमें राष्ट्रीय ग्रामीण स्वास्थ्य मिशन (एनआरएचएम) और राष्ट्रीय शहरी स्वास्थ्य मिशन (एनयूएचएम) शामिल हैं, ढांचों, अर्थशास्त्र और प्रणालियों, जो स्वास्थ्य संवर्धन को प्रभावित करती हैं, स्वास्थ्य सुरक्षा प्रदायगी, रोग रोकथाम, प्रभावीपन, प्रत्युत्तरात्मकता, गुणवत्ता और मरीज सुरक्षा सहित राष्ट्रीय और क्षेत्रीय स्वास्थ्य सुरक्षा नीतियों की जानकारी प्रदर्शित करना।
- 3.1.5 मरीज और रिश्तेदारों तथा देखभाल करने वालों सहित अन्य सुसंगत स्रोतों से प्राप्त उस इतिवृत्त को प्रकाश में लाने और दर्ज करने की योग्यता प्रदर्शित करना, जो पूरा और रोग का पता लगाने, रोग की देखभाल और स्वास्थ्य संवर्धन से सुसंगत है।
- 3.1.6 मरीज और रिश्तेदारों तथा देखभाल करने वालों सहित अन्य सुसंगत स्रोतों से प्राप्त उस इतिवृत्त को प्रकाश में लाने और दर्ज करने की योग्यता प्रदर्शित करना, जो जेंडर, आयु, असुरक्षितता, सामाजिक और आर्थिक स्थिति, मरीज की वरीयताओं, विश्वासों और मूल्यों से प्रासंगिक है।
- 3.1.7 एक ऐसा शारीरिक परीक्षण करने की योग्यता प्रदर्शित करना, जो पूरा और रोग का पता लगाने, रोग की देखभाल और स्वास्थ्य संवर्धन से सुसंगत है।
- 3.1.8 एक ऐसा शारीरिक परीक्षण करने की योग्यता प्रदर्शित करना, जो जेंडर, आयु, असुरक्षितता, सामाजिक और आर्थिक स्थिति, मरीज की वरीयताओं, विश्वासों और मूल्यों से प्रासंगिक है।
- 3.1.9 प्रभावी नैदानिक समस्या समाधान, निर्णय और मरीज की समस्याओं का हल निकालने की दृष्टि से, उपलब्ध आंकड़ों की व्याख्या करने और उन्हें एकीकृत करने, विभेदीय निदान सृजित करने और व्यक्तिपरक प्रबंधन योजनाएं, जिनमें निवारक, समर्थक और चिकित्सीय लक्ष्य शामिल हैं, तैयार करने की योग्यता प्रदर्शित करना।
- 3.1.10 विधिक और प्रशासनिक ढांचे के अनुरूप मरीजों के सही-सही, स्पष्ट और समुचित रिकार्ड रखना।
- 3.1.11 समुचित नैदानिक परीक्षण चुनने और वैज्ञानिक वैधता, किफायती और नैदानिक संदर्भ के आधार पर इन परीक्षणों की व्याख्या करने की योग्यता प्रदर्शित करना।
- 3.1.12 पौषणिक हस्तक्षेपों, भेषज थेरेपी और तर्कसंगत औषध थेरेपी, वैज्ञानिक वैधता, साक्ष्य और लागत के सिद्धांतों पर आधारित हस्तक्षेपों, जो सुस्थापित राष्ट्रीय और क्षेत्रीय कार्यक्रमों तथा निम्नलिखित के लिए नीतियों के अनुरूप हैं, सहित समुचित थेरेपियां प्रेसक्राइब करने और सुरक्षित रूप से देने की योग्यता प्रदर्शित करना:
 - (i) रोगों की रोकथाम;
 - (ii) स्वास्थ्य संवर्धन और उपचार;
 - (iii) दर्द और कष्ट उपशमन; और

(iv) स्वास्थ्य लाभ।

- 3.1.13 प्राथमिक और/या माध्यमिक स्तर पर देखभाल का सांतत्यक, जो चिरकालिक मानसिक और शारीरिक विकलांगता की समस्या का हल निकालता हो, प्रदान करने की योग्यता प्रदर्शित करना।
- 3.1.14 ऐसे मरीजों, जिन्हें विशेषज्ञता वाली और उन्नत तृतीयक देखभाल की आवश्यकता हो, को समुचित ढंग से पहचान करने और रेफर करने की योग्यता प्रदर्शित करना।
- 3.1.15 मौलिक, नैदानिक और स्थानांतरीय अनुसंधान, जो मरीज की देखभाल पर लागू होता है, के साथ परिचय प्रदर्शित करना।

3.2 स्वास्थ्य सुरक्षा दल और प्रणाली का अग्रणी और सदस्य

- 3.2.1 अन्य व्यवसायविदों की भूमिका, जिम्मेदारियों और सक्षमताओं की विविधता का सम्मान करते हुए एक अंतर-व्यावसायिक स्वास्थ्य सुरक्षा दल में सहयोगियों के साथ प्रभावी और समुचित ढंग से कार्य करना।
- 3.2.2 प्राथमिक और माध्यमिक स्वास्थ्य सुरक्षा स्थापनाओं में एक स्वास्थ्य सुरक्षा दल अग्रणी के रूप में स्वीकार करना और प्रभावी ढंग से जिम्मेदारीपूर्वक और समुचित ढंग से कार्य करना।
- 3.2.3 दल के अन्य सदस्यों को शिक्षित और प्रेरित करना और एक सहयोगात्मक तथा सह शासन तरीके से कार्य करना, जो दल की स्वास्थ्य सुरक्षा प्रदायगी की संभावना को अधिकतम बनाने में सहायता करेगा।
- 3.2.4 स्वास्थ्य सुरक्षा प्रणाली और स्वास्थ्य प्रदायगी के घटकों तक पहुंच और उनका एक ऐसे तरीके से उपयोग करना जो समुचित, किफायती, उचित और राष्ट्रीय स्वास्थ्य सुरक्षा की प्राथमिकताओं और नीतियों के अनुरूप हो और स्वास्थ्य के आंकड़े एकत्र करने, उनका विश्लेषण करने और उनका उपयोग करने में समर्थ हों।
- 3.2.5 ऐसे उपायों में समुचित और प्रभावी ढंग से भाग लेना जो स्वास्थ्य सुरक्षा प्रणाली के अंदर स्वास्थ्य सुरक्षा की गुणवत्ता और मरीज सुरक्षा को उन्नत करेंगे।
- 3.2.6 स्वास्थ्य सुरक्षा दल के अन्य सदस्यों के सहयोग से निम्नलिखित में रोकथाम और शीघ्र पहचान करने के जरिए स्वास्थ्य संवर्धन, रोगों की रोकथाम और स्वास्थ्य सुरक्षा की गुणवत्ता में सुधार लाने को स्वीकार करना और उसका समर्थन करना: (क) जीवनशैली संबंधी रोग; और (ख) कैंसर।

3.3 मरीजों, परिवारों, सहयोगियों और समुदाय के साथ संसूचनकर्ता

- 3.3.1 मरीजों के साथ पर्याप्त रूप से, संवेदनशीलता के साथ, प्रभावी ढंग से और सम्मानपूर्वक उस भाषा में, जो मरीज समझता है और उस तरीके से, जो मरीज की संतुष्टि और स्वास्थ्य सुरक्षा परिणामों की दृष्टि से सुधार करेगा, में संसूचित करने की योग्यता प्रदर्शित करना।
- 3.3.2 मरीजों और परिवारों के साथ ऐसे व्यावसायिक संबंध, जो सकारात्मक, समझ-बूझ वाले, मानवीय, नैतिकतापूर्ण, सहानुभूतिपूर्ण तथा विश्वासयोग्य हों, स्थापित करने की योग्यता प्रदर्शित करना।
- 3.3.3 मरीज की वरीयताएं, मूल्य, पूर्व अनुभव, विश्वास, गोपनीयता और निजता को सम्मानपूर्वक तरीके से मरीजों को संसूचित करने की योग्यता प्रदर्शित करना।

- 3.3.4 मरीजों, सहयोगितयों और परिवारों के साथ ऐसे तरीके से संसूचित करने की योग्यता प्रदर्शित करना, जो सहभागिता और साझा निर्णय करने को प्रोत्साहित करता हो।

3.4 कौशलों और ज्ञान के निरंतर सुधार के प्रति समर्पित आजीवन शिक्षार्थी

- 3.4.1 ज्ञान और कौशलों का उद्देश्यपरक स्व-मूल्यांकन, निरंतर ज्ञानार्जन, मौजूदा कौशलों का परिष्करण और नए कौशल प्राप्त करने की योग्यता प्रदर्शित करना।
- 3.4.2 नए-नए प्राप्त किए गए ज्ञान या कौशलों को मरीजों की देखभाल के प्रति लागू करने की योग्यता प्रदर्शित करना।
- 3.4.3 व्यक्तिगत और व्यावसायिक प्रगति तथा ज्ञानार्जन में वृद्धि करने के लिए आत्म विश्लेषण करने और अनुभव का उपयोग करने की योग्यता प्रदर्शित करना।
- 3.4.4 चिकित्सा साहित्य की खोज करने (इलेक्ट्रॉनिक माध्यमों सहित) और उनका समालोचनात्मक मूल्यांकन करने तथा सूचना को मरीज की देखभाल में लागू करने की योग्यता प्रदर्शित करना।
- 3.4.5 ऐसे समुचित कैरियर मार्ग का पता लगाने और चुनने में योग्य होना जो व्यावसायिक रूप से लाभप्रद और व्यक्तिगत रूप से इच्छा पूरी करने वाला हो।

3.5 ऐसा व्यवसायविद जो उत्कृष्टता के प्रति समर्पित है, मरीजों, समुदाय और व्यवसाय के प्रति नैतिकतापूर्ण, प्रत्युत्तरात्मक और जवाबदेह है

- 3.5.1 निःस्वार्थता, सत्यनिष्ठा, जिम्मेदारी, जवाबदेही और सम्मान को व्यवहार में लाना।
- 3.5.2 मरीजों, सहयोगियों और समाज के बीच व्यावसायिक सीमाओं का सम्मान करना और उन्हें बनाए रखना।
- 3.5.3 नैतिकता और व्यावसायिक प्रतिरोधों की पहचान करने और उन्हें नियंत्रित करने की योग्यता प्रदर्शित करना।
- 3.5.4 विनिर्धारित नैतिकता और विधिक आचार संहिता तथा पद्धति का पालन करना।
- 3.5.5 पूरे चिकित्सा व्यवसाय की प्रगति के प्रति समर्पण प्रदर्शित करना।

4. प्रशिक्षण फार्मेट पर व्यापक रूपरेखा

- 4.1 यह सुनिश्चित करने की दृष्टि से कि प्रशिक्षण ऊपर उप-खंड 2 और 3 में सूचीबद्ध लक्ष्यों और सक्षमताओं के अनुरूप है:
- 4.1.1 एमबीबीएस कार्यक्रम के चिकित्सा शिक्षार्थियों का अभिमुखीकरण करने और उन्हें अपेक्षित ज्ञान, संसूचन (इलेक्ट्रॉनिक सहित), तकनीकी और भाषा कौशल उपलब्ध कराने के लिए एक 'आधारभूत पाठ्यक्रम' होगा।
- 4.1.2 पाठ्यचर्या की विषय-वस्तु शिक्षार्थियों की रुचि में वृद्धि करने तथा अतिशयता और परस्पर-व्यापन समाप्त करने की दृष्टि से अधिकतम संभावित सीमा तक ऊर्ध्वाधर और अनुप्रस्थ रूप से अनुकूल और एकीकृत होगी।
- 4.1.3 अध्यापन-शिक्षार्जन पद्धतियां शिक्षार्थी केंद्रित होंगी और प्रमुख रूप से इनमें लघु समूह ज्ञानार्जन, परस्पर-परामर्शी अध्यापन पद्धतियां और मामला आधारित ज्ञानार्जन शामिल होगा।

- 4.1.4 नैदानिक प्रशिक्षण में प्रारंभिक नैदानिक अनुभव, कौशल अर्जन, अनिवार्य कौशलों में प्रमाणीकरण; समुदाय/प्राथमिक/द्वितीय देखभाल आधारित ज्ञानार्जन अनुभव और आपातकालिक स्थितियों पर जोर दिया जाएगा।
- 4.1.5 प्रशिक्षण में प्राथमिकतः परिवार कल्याण, संक्रामक और गैर-संक्रामक रोगों, जिनमें कैंसर, महामारी और आपदा प्रबंधन शामिल हैं, जैसी राष्ट्रीय स्वास्थ्य प्राथमिकताओं पर विशेष जोर देने के साथ स्वास्थ्य और रोग के प्रति निवारक तथा समुदाय आधारित दृष्टिकोणों पर ध्यान केंद्रित किया जाएगा।
- 4.1.6 कौशलों का अर्जन और प्रमाणीकरण, मरीज की देखभाल, नैदानिक और कौशल प्रयोगशालाओं में अनुभवों के जरिए किया जाएगा।
- 4.1.7 पाठ्यचर्या के एक अभिन्न भाग के रूप में नैतिक मूल्यों के विकास और मनोवृत्ति, नैतिकता और संचार सहित व्यावसायिक प्रगतियों पर एक संरचित लंबाई के और समर्पित कार्यक्रम के जरिए जोर दिया जाएगा।
- 4.1.8 चिकित्सा शिक्षार्थी की प्रगति का दस्तावेजीकरण संरचित आवधिक मूल्यांकन के जरिए किया जाएगा, जिसमें रचनात्मक और संक्षिप्त मूल्यांकन शामिल होगा। कौशल आधारित प्रशिक्षण के अभिलेख भी रखे जाएंगे।
- 4.2 उनके व्यावसायिक और अध्यापन कौशल निरंतर अद्यतनीकृत करने और उनके अध्यापन कौशल को पाठ्यचर्या के उद्देश्यों के अनुरूप बनाने के लिए सभी स्तरों पर चिकित्सा अध्यापकों को सुविधा प्रदान करने के लिए संस्थानों द्वारा नियमित रूप से समुचित संकाय विकास कार्यक्रम आयोजित किए जाएंगे।

अध्याय II

भारतीय चिकित्सा स्नातक कार्यक्रम में दाखिला : राष्ट्रीय पात्रता व प्रवेश परीक्षा तथा सामूहिक काउंसलिंग

5. भारतीय चिकित्सा स्नातक कार्यक्रम में दाखिला

भाग I - अध्याय II में दिए गए उपबंध नियंत्रण उपबंध होंगे।

अध्याय III - स्थानांतरण

6. स्थानांतरण

भाग I, अध्याय II, खंड 6 में दिए गए उपबंध नियंत्रण उपबंध होंगे।

अध्याय IV

व्यावसायिक विकास के लिए चरण-वार प्रशिक्षण और समय वितरण

भारतीय आयुर्विज्ञान परिषद द्वारा प्रकाशित और परिषद की वेबसाइट पर भी उपलब्ध कराया गया सक्षमता आधारित स्नातक-पूर्व पाठ्यचर्या और मनोवृत्ति, नैतिकता तथा संचार (एटकाँम) पाठ्यक्रम, शैक्षिक वर्ष 2019-20 से एमबीबीएस में दाखिल किए गए बैचों के लिए पाठ्यचर्या होगी।

बशर्ते कि शैक्षिक वर्ष 2019-20 से पहले दाखिल किए गए बैचों के संबंध में नियंत्रण उपबंध वही रहेंगे जो इन विनियमों के भाग-I में दिए गए हैं।

7. प्रशिक्षण अवधि और समय वितरण:

- 7.1 प्रत्येक शिक्षार्थी को पाठ्यक्रम के प्रारंभ होने की तारीख से परीक्षा की पूर्णता की तारीख तक 9 सेमेस्ट्रों में विभाजित 4½ शैक्षिक वर्षों में फैली प्रमाणित अध्ययन अवधि पूरी करनी होगी, जिसके पश्चात एक वर्ष की अनिवार्य रोटेटिंग इंटरशिप होगी।
- 7.2 प्रत्येक शैक्षिक वर्ष में एक घंटे के भोजन अवकाश सहित हर दिन न्यूनतम 8 कार्य घंटों के साथ कम से कम 240 अध्यापन दिवस होंगे।
- 7.3 अध्यापन और ज्ञानार्जन बेहतर शिक्षार्थी समझ के लिए ऊर्ध्वाधर और अनुप्रस्थ रूप से सभी विशेषज्ञताओं के अनुरूप और एकीकृत होगा। शिक्षार्थी संकेंद्रित ज्ञानार्जन पद्धतियों में समस्या-उन्मुखी ज्ञानार्जन, मामला अध्ययन, सामुदायिक उन्मुखी ज्ञानार्जन, स्व-निर्देशन और अनुभवजन्य ज्ञानार्जन शामिल होना चाहिए।
- 7.4 4½ वर्ष की अवधि निम्नलिखित रूप में विभाजित है:

7.4.1 नैदानिक-पूर्व चरण [(चरण I) - 13 महीने के प्रथम व्यावसायिक चरण, जिससे पहले एक महीने का आधारभूत पाठ्यक्रम होगा] में नैदानिक-पूर्व विषय होंगे – अनुप्रस्थ और ऊर्ध्वाधर एकीकरण दोनों को सुनिश्चित करते हुए मानव शरीररचना-विज्ञान, शरीरक्रिया-विज्ञान, जीवरसायन, कम्प्युनिटी मेडिसिन का परिचय, मानविकियां, व्यावसायिक प्रगति, जिसमें मनोवृत्ति, नैतिकता और संसूचन (ऐटकॉम) मॉड्यूल तथा प्रारंभिक नैदानिक अनुभव शामिल हैं।

7.4.2. पैरा-नैदानिक चरण [(चरण-II) – दूसरा व्यावसायिक चरण (12 महीने का)] में अनुप्रस्थ और ऊर्ध्वाधर एकीकरण दोनों को सुनिश्चित करते हुए पैरा-नैदानिक विषय शामिल होंगे, नामतः रोग-विज्ञान, भेषज-विज्ञान, सूक्ष्मजीव-विज्ञान, कम्प्युनिटी मेडिसिन, फॉरेंसिक मेडिसिन और विष-विज्ञान, व्यावसायिक प्रगति, जिसमें मनोवृत्ति, नैतिकता एवं संसूचन (ऐटकॉम) मॉड्यूल और नैदानिक विषयों का परिचय शामिल है।

शिक्षार्थियों का नैदानिक अनुभव सभी चरणों में नैदानिक प्रशिक्षण की शिक्षार्थी-डॉक्टर पद्धति के रूप में होगा। इसमें प्राथमिक, निवारक और व्यापक स्वास्थ्य सुरक्षा पर जोर दिया जाएगा। नैदानिक तैनातियों के दौरान प्रशिक्षण का एक भाग स्वास्थ्य सुरक्षा के प्राथमिक स्तर पर होना चाहिए। जहां कहीं संभव हो, द्वितीय स्वास्थ्य सुरक्षा में ज्ञानार्जन उपलब्ध कराना वांछनीय है। इसमें निम्नलिखित शामिल होंगे:

- (क) बहिरंग रोगी, अंतरंग रोगी और आपातकालिक स्थापनाओं में सामान्य रूप से देखी गई समस्याओं का पता लगाने और उन्हें नियंत्रित करने में अनुभव;
- (ख) दल के एक सदस्य के रूप में मरीज की देखभाल में शामिल होना;
- (ग) मरीज प्रबंधन और मौलिक प्रक्रियाएं करने में शामिल होना।

7.4.3 नैदानिक चरण - [(चरण-III) तीसरा व्यावसायिक चरण (28 महीने का)]

- (क) भाग I (13 महीने का) – नैदानिक विषयों में जनरल मेडिसिन, जनरल सर्जरी, प्रसूति एवं स्त्रीरोग-विज्ञान, बालरोग, अस्थिरोग, त्वचारोग-विज्ञान, कान-नाक-गलारोग-विज्ञान, नेत्ररोग-विज्ञान, कम्प्युनिटी मेडिसिन, फॉरेंसिक मेडिसिन और विष-विज्ञान, मनःचिकित्सा,

श्वसनी मेडिसिन, विकिरण निदान और विकिरण थेरेपी तथा संचेतनाहर-विज्ञान एवं ऐटकाॅम मॉड्यूल सहित व्यावसायिक विकास शामिल है।

- (ख) वैकल्पिक (2 महीने का) – शिक्षार्थी को अनुसंधान/सामुदायिक परियोजनाएं करने के लिए विविध ज्ञानार्जन अनुभव का अवसर उपलब्ध कराना, जो जांच, स्व-निर्देशित अनुभवजन्य ज्ञानार्जन और पार्श्विक चिंतन को प्रेरित करेगा (9.3)।
- (ग) भाग II (13 महीने का) – नैदानिक विषयों में निम्नलिखित शामिल होंगे:
- (i) मेडिसिन और संबद्ध विशेषज्ञताएं (जनरल मेडिसिन, मनश्चिकित्सा, त्वचारोग-विज्ञान, रतिजरोग-विज्ञान एवं कुष्ठरोग (डीवीएल), तपेदिक सहित श्वसनी मेडिसिन।
 - (ii) शल्यचिकित्सा और संबद्ध विशेषज्ञताएं [जनरल सर्जरी, अस्थिरोग (अभिघात सहित), दंत्य, शारीरिक मेडिसिन एवं पुनर्वास, संचेतनाहर-विज्ञान और विकिरण निदान]।
 - (iii) प्रसूति एवं स्त्रीरोग-विज्ञान (परिवार कल्याण सहित)।
 - (iv) बाल रोग।
 - (v) ऐटकाॅम मॉड्यूल।

7.5 शिक्षात्मक व्याख्यान अनुसूची के एक-तिहाई से अधिक नहीं होंगे; अनुसूची के दो-तिहाई भाग में परस्पर विचार-विमर्शी सत्र, प्रयोगात्मक, नैदानिक या/और समूह चर्चाएं शामिल होंगी। ज्ञानार्जन प्रक्रिया में नैदानिक अनुभव, समस्या-उन्मुखी दृष्टिकोण, मामला अध्ययन और सामुदायिक स्वास्थ्य सुरक्षा क्रियाकलाप शामिल होने चाहिए।

दाखिला, पूरी तरह इसके प्रति सांविधिक रूप से अधिसूचित समय अनुसूची के अनुसार होगा।

7.6 विश्वविद्यालय, दाखिले की समय सूची और दाखिला प्रक्रिया ऐसे तरीके से आयोजित करेंगे कि प्रथम व्यावसायिक वर्ष में अध्यापन, प्रत्येक वर्ष के 01 अगस्त तक आधारभूत पाठ्यक्रम के जरिए परिचय के साथ आरंभ हो जाए:

- (i) अनुपूरक परीक्षाएं, मुख्य परीक्षा के परिणामों की घोषणा की तारीख से अधिक से अधिक 90 दिन की अवधि से अधिक समय के बाद आयोजित नहीं की जाएंगी ताकि ऐसे शिक्षार्थी जो उत्तीर्ण हो जाते हैं, प्रगति के लिए मुख्य बैच में शामिल हो सकें और बाकी छात्र उत्तरवर्ती वर्ष में परीक्षा में बैठेंगे।
- (ii) कोई शिक्षार्थी प्रथम एमबीबीएस पाठ्यक्रम में शामिल होने के अधिक से अधिक 10 वर्ष के बाद स्नातक होने का हकदार नहीं होगा।

7.7 प्रथम व्यावसायिक परीक्षा में उत्तीर्ण होने के लिए किसी अभ्यर्थी को चार से अधिक अवसरों की अनुमति नहीं दी जाएगी। प्रथम व्यावसायिक पाठ्यक्रम को सफलतापूर्वक पूरा करने की कुल अवधि 4 (चार) वर्ष से अधिक नहीं होगी। किसी विषय में परीक्षा के लिए आंशिक उपस्थिति को एक अवसर के रूप में गिना जाएगा।

7.8 ऐसा शिक्षार्थी, जो दूसरी व्यावसायिक परीक्षा में अनुत्तीर्ण हो जाता है, को तृतीय व्यावसायिक भाग-1 परीक्षा में बैठने की अनुमति नहीं दी जाएगी, जब तक वह द्वितीय व्यावसायिक परीक्षा के सभी विषयों में उत्तीर्ण नहीं हो जाता/जाती।

- 7.9 भाग-II प्रशिक्षण आरंभ किए जाने से पहले तृतीय व्यावसायिक (भाग-I) परीक्षा में उत्तीर्ण होना अनिवार्य नहीं है, तथापि तृतीय व्यावसायिक (भाग-II) परीक्षा के लिए पात्र बनने हेतु तृतीय व्यावसायिक (भाग-I) परीक्षा में उत्तीर्ण होना अनिवार्य है।
- 7.10 वैकल्पिक विषयों के विनिर्धारित दो महीनों सहित पैरा-नैदानिक और नैदानिक चरणों के दौरान सारणी 5, 6, 7 और 8 में यथाविनिर्दिष्ट प्रति दिन 3 घंटों की अवधि की नैदानिक तैनातियां विभिन्न विभागों के लिए लागू होंगी।

8. चरण वितरण और परीक्षा की समय-अनुसूची

- 8.1 एमबीबीएस कार्यक्रम का समय वितरण सारणी 1 में दिया गया है।
- 8.2 व्यावसायिक चरण-वार विषयों का वितरण सारणी 2 में दिया गया है।
- 8.3 विभिन्न विधाओं में विनिर्धारित न्यूनतम अध्यापन घंटे सारणी 3-7 में दिए गए हैं।
- 8.4 नैदानिक तैनातियों का वितरण सारणी 8 में दिया गया है।
- 8.5 नैदानिक तैनातियों की अवधि निम्नलिखित होगी:
- 8.5.1 द्वितीय व्यावसायिक : नैदानिक तैनाती के 36 सप्ताह (तीन घंटे प्रति दिन – 5 दिन प्रति सप्ताह : कुल 540 घंटे)
- 8.5.2 तृतीय व्यावसायिक भाग-I : नैदानिक तैनाती के 42 सप्ताह (तीन घंटे प्रति दिन – 6 दिन प्रति सप्ताह : कुल 756 घंटे)
- 8.5.3 तृतीय व्यावसायिक भाग-II : नैदानिक तैनाती के 44 सप्ताह (तीन घंटे प्रति दिन – 6 दिन प्रति सप्ताह : कुल 792 घंटे)।
- 8.6 आबंटित किए गए समय में आंतरिक/विश्वविद्यालय परीक्षाओं और छुट्टियों के लिए आरक्षित समय शामिल नहीं है।
- 8.7 द्वितीय व्यावसायिक नैदानिक तैनातियां, संस्थान/विश्वविद्यालय द्वारा लिए गए निर्णय के अनुसार प्रथम व्यावसायिक चरण परीक्षाओं के परिणामों की घोषणा से पहले/पश्चात आरंभ होंगी। तृतीय व्यावसायिक भाग-I और भाग-II नैदानिक तैनातियां, पिछली व्यावसायिक परीक्षा पूरी होने के पश्चात अधिक से अधिक दो सप्ताह में आरंभ होंगी।
- 8.8 तृतीय व्यावसायिक तैनातियों के आबंटित समय के 25 प्रतिशत का उपयोग, नैदानिक-पूर्व और पैरा-नैदानिक विषयों के साथ एकीकृत ज्ञानार्जन के लिए किया जाएगा। इसे नैदानिक विषयों के मूल्यांकन में शामिल किया जाएगा।

सारणी 1 : एमबीबीएस कार्यक्रम और परीक्षा अनुसूची का समय वितरण

जनवरी	फरवरी	मार्च	अप्रैल	मई	जून	जुलाई	अगस्त	सितंबर	अक्टूबर	नवंबर	दिसंबर
							आधारभूत पाठ्यक्रम	I एमबीबीएस			
I एमबीबीएस								परीक्षा I एमबीबीएस	II एमबीबीएस		
II एमबीबीएस								परीक्षा II एमबीबीएस	III एमबीबीएस		
III एमबीबीएस भाग-I								परीक्षा III एमबीबीएस भाग-I	वैकल्पिक एवं कौशल		

III. एमबीबीएस भाग-II										
परीक्षा III एमबीबीएस भाग II		इंटरनशिप								
इंटरनशिप										

- परीक्षा पूरी करने और परिणामों की घोषणा के लिए प्रत्येक व्यावसायिक वर्ष के अंत में एक महीने का समय उपलब्ध कराया जाएगा।

सारणी 2 : व्यावसायिक चरण के हिसाब से विषयों का वितरण

एमबीबीएस प्रशिक्षण का चरण और वर्ष	विषय और नए अध्यापन कारक	अवधि	विश्वविद्यालय परीक्षा
प्रथम व्यावसायिक एमबीबीएस	<ul style="list-style-type: none"> आधारभूत पाठ्यक्रम (एक महीना) मानव शरीररचना-विज्ञान, शरीरक्रिया-विज्ञान एवं जीवरसायन, कम्युनिटी मेडिसिन का परिचय, मानविकियां आरंभिक नैदानिक अनुभव मनोवृत्ति, नैतिकता एवं संसूचन मॉड्यूल (ऐटकाँम) 	1+13 महीने	I. व्यावसायिक
द्वितीय व्यावसायिक एमबीबीएस	<ul style="list-style-type: none"> रोग-विज्ञान, सूक्ष्मजीव-विज्ञान, भेषज-विज्ञान, फोरेंसिक मेडिसिन और विष-विज्ञान कम्युनिटी मेडिसिन सहित नैदानिक विषयों का परिचय नैदानिक तैनातियां मनोवृत्ति, नैतिकता एवं संसूचन मॉड्यूल (ऐटकाँम) 	12 महीने	II. व्यावसायिक
तृतीय व्यावसायिक एमबीबीएस भाग-I	<ul style="list-style-type: none"> जनरल मेडिसिन, जनरल सर्जरी, प्रसूति एवं स्त्रीरोग-विज्ञान, बालरोग, अस्थिरोग, त्वचारोग-विज्ञान, मनश्चिकित्सा, कान-नाक-गलारोग-विज्ञान, नेत्ररोग-विज्ञान, कम्युनिटी मेडिसिन, फोरेंसिक मेडिसिन और विष-विज्ञान, 	13 महीने	III. व्यावसायिक (भाग-I)

	श्वसनी मेडिसिन, विकिरण निदान एवं विकिरण थेरेपी, संचेतनाहर-विज्ञान <ul style="list-style-type: none"> • नैदानिक विषय/तैनातियां • मनोवृत्ति, नैतिकता एवं संसूचन मॉड्यूल (एटकाँम) 		
वैकल्पिक	<ul style="list-style-type: none"> • वैकल्पिक, कौशल एवं मूल्यांकन* 	2 महीने	
तृतीय व्यावसायिक एमबीबीएस भाग-II	<ul style="list-style-type: none"> • जनरल मेडिसिन, बालरोग, जनरल सर्जरी, अस्थिरोग, परिवार कल्याण सहितप्रसूति एवं स्त्रीरोग-विज्ञानऔर संबद्ध विशेषज्ञताएं • नैदानिक तैनातियां/विषय • मनोवृत्ति, नैतिकता एवं संसूचन मॉड्यूल (एटकाँम) 	13 महीने	III व्यावसायिक (भाग-II)

* वैकल्पिकों के मूल्यांकन में आंतरिक मूल्यांकन शामिल किया जाएगा।

सारणी 3 : आधारभूत पाठ्यक्रम (एक महीना)

विषय/ विषय-वस्तु	अध्यापन घंटे	स्व-निर्देशित ज्ञानार्जन (घंटे)	कुल घंटे
अभिमुखीकरण ¹	30	0	30
कौशल मॉड्यूल ²	35	0	35
सामुदायिक स्वास्थ्य केंद्र में फील्ड दौरा	8	0	8
व्यावसायिक विकास और एटकाँम मॉड्यूल का परिचय	-	-	40
खेलकूद और कार्योत्तर क्रियाकलाप	22	0	22
भाषा/कंप्यूटर कौशलों की वृद्धि ³	40	0	40
जोड़	-	-	175

1. अभिमुखीकरण पाठ्यक्रम प्रथम सप्ताह में एकल ब्लॉक के रूप में पूरा किया जाएगा और इसमें 9.1 में दिए गए घटक शामिल होंगे।
2. कौशल मॉड्यूलों में 9.1 में वर्णित घटक होंगे।
3. शिक्षार्थियों की अनुभूत आवश्यकताओं के आधार पर कोई छात्र भाषा वर्धन (अंग्रेजी या स्थानीय रूप से बोली जाने वाली या दोनों भाषाएं) और कंप्यूटर कौशल चुन सकता है। यह आधारभूत पाठ्यक्रम की अवधि के जरिए अनुप्रस्थ रूप से उपलब्ध कराया जाना चाहिए।

आधारभूत पाठ्यक्रम का अध्यापन नैदानिक-पूर्व विभागों द्वारा आयोजित किया जाएगा।

सारणी 4 : प्रथम व्यावसायिक अध्यापन घंटे

विषय	व्याख्यान घंटे	लघु समूह अध्यापन/ ट्यूटोरियल्स/ एकीकृत ज्ञानार्जन/ प्रयोगात्मक (घंटे)	स्व-निर्देशित ज्ञानार्जन (घंटे)	कुल (घंटे)
मानव शरीररचना-विज्ञान	220	415	40	675
शरीरक्रिया-विज्ञान*	160	310	25	495
जीवरसायन	80	150	20	250
आरंभिक नैदानिक अनुभव**	90	-	0	90
कम्युनिटी मेडिसिन	20	27	5	52
मनोवृत्ति, नैतिकता एवं संसूचन मॉड्यूल (एटकॉम)***	-	26	8	34
खेलकूद और कार्योत्तर क्रियाकलाप	-	-	-	60
रचनात्मक मूल्यांकन और आवधिक परीक्षाएं	-	-	-	80
जोड़	-	-	-	1736

* आण्विक जीव-विज्ञान सहित

** आरंभिक नैदानिक अनुभव के घंटे सभी तीन विषयों में बराबर-बराबर विभाजित किए जाएंगे।

*** एटकॉम मॉड्यूल एक लंबा कार्यक्रम होगा।

सारणी 5 : द्वितीय व्यावसायिक अध्यापन घंटे

विषय	व्याख्यान (घंटे)	लघु समूह ज्ञानार्जन (ट्यूटोरियल्स/ संगोष्ठियां)/ एकीकृत ज्ञानार्जन (घंटे)	नैदानिक तैनातियां (घंटे)*	स्व-निर्देशित ज्ञानार्जन (घंटे)	कुल (घंटे)
रोग-विज्ञान	80	138	-	12	230
भेषज-विज्ञान	80	138	-	12	230
सूक्ष्मजीव-विज्ञान	70	110	-	10	190
कम्युनिटी मेडिसिन	20	30	-	10	60
फॉरेंसिक मेडिसिन और विष-विज्ञान	15	30	-	5	50
नैदानिक विषय	75**	-	540***	-	615
मनोवृत्ति, नैतिकता एवं संसूचन मॉड्यूल (एटकॉम)	-	29	-	8	37
खेलकूद और कार्योत्तर क्रियाकलाप	-	-	-	28	28
जोड़	-	-	-	-	1440

- * प्रत्येक सप्ताह नैदानिक निर्देश के कम से कम 3 घंटे नैदानिक और प्रक्रियात्मक कौशल प्रयोगशालाओं में प्रशिक्षण के लिए आबंटित किए जाने चाहिए। ये घंटे संस्थागत संभारतंत्र के आधार पर प्रति सप्ताह या प्रत्येक तैनाती में एक ब्लॉक के रूप में आबंटित किए जा सकते हैं।
- ** मेडिसिन, सर्जरी और स्त्रीरोग-विज्ञान एवं प्रसूति के लिए 25-25 घंटे।
- *** द्वितीय व्यावसायिक में नैदानिक तैनातियां 15 घंटे प्रति सप्ताह होंगी (सोमवार से शुक्रवार तक प्रति दिन 3 घंटे)।

सारणी 6 : तृतीय व्यावसायिक भाग-I अध्यापन घंटे

विषय	अध्यापन घंटे	ऑटोरियल्स/संगोष्ठियां/ एकीकृत अध्यापन (घंटे)	स्व-निर्देशित ज्ञानार्जन (घंटे)	कुल (घंटे)
जनरल मेडिसिन	25	35	5	65
जनरल सर्जरी	25	35	5	65
प्रसूति एवं स्त्रीरोग-विज्ञान	25	35	5	65
बालरोग	20	30	5	55
अस्थिरोग	15	20	5	40
फॉरेंसिक मेडिसिन और विष-विज्ञान	25	45	5	75
कम्युनिटी मेडिसिन	40	60	5	105
त्वचारोग-विज्ञान	20	5	5	30
मनश्चिकित्सा	25	10	5	40
श्वसनी मेडिसिन	10	8	2	20
कान-नाक-गलारोग-विज्ञान	25	40	5	70
नेत्ररोग-विज्ञान	30	60	10	100
विकिरण निदान और विकिरण थेरेपी	10	8	2	20
संचेतनाहर-विज्ञान	8	10	2	20
नैदानिक तैनातियां*	-	-	-	756
मनोवृत्ति, नैतिकता एवं संसूचन मॉड्यूल (ऐटकॉम)	-	19	6	25
जोड़	303	401	66	1551

*तृतीय व्यावसायिक भाग I में नैदानिक तैनातियां 18 घंटे प्रति सप्ताह होंगी (सोमवार से शनिवार तक 3 घंटे प्रति दिन)।

सारणी 7 : तृतीय व्यावसायिक भाग II अध्यापन घंटे

विषय	अध्यापन घंटे	ऑटोरियल्स/संगोष्ठियां/ एकीकृत अध्यापन (घंटे)	स्व-निर्देशित ज्ञानार्जन (घंटे)	कुल* (घंटे)
जनरल मेडिसिन	70	125	15	210
जनरल सर्जरी	70	125	15	210
प्रसूति एवं स्त्रीरोग-विज्ञान	70	125	15	210
बालरोग	20	35	10	65
अस्थिरोग	20	25	5	50

नैदानिक तैनातियां**	-	-	-	792
मनोवृत्ति, नैतिकता एवं संसूचन मॉड्यूल (एटकाँम)***	28	-	16	43
वैकल्पिक	-	-	-	200
जोड़	250	435	60	1780

* तृतीय व्यावसायिक के आबंटित समय के 25 प्रतिशत का उपयोग प्री और पैरा-नैदानिक विषयों के साथ एकीकृत ज्ञानार्जन के लिए किया जाएगा और इसका मूल्यांकन नैदानिक विषयों की परीक्षा के दौरान किया जाएगा। आबंटित किए गए समय का उपयोग नैदानिक विषयों (जैसे नैदानिक रोग-विज्ञान, नैदानिक भेषज-विज्ञान और नैदानिक सूक्ष्मजीव-विज्ञान) के साथ पैरा-नैदानिक विषयों द्वारा एकीकृत अध्यापन के रूप में किया जाएगा।

** तृतीय व्यावसायिक भाग II में नैदानिक तैनातियां 18 घंटे प्रति सप्ताह होंगी (सोमवार से शनिवार तक तीन घंटे प्रति दिन)।

*** नैदानिक तैनातियों के घंटों का इस्तेमाल एटकाँम मॉड्यूल के लिए भी किया जा सकता है।

सारणी 8 : नैदानिक तैनातियां

विषय	सप्ताहों में प्रशिक्षण की अवधि			
	II एमबीबीएस	III एमबीबीएस भाग-I	III एमबीबीएस भाग-II	कुल सप्ताह
वैकल्पिक	-	-	8*(4 नियमित नैदानिक तैनातियां)	4
जनरल मेडिसिन ¹	4	4	8+4	20
जनरल सर्जरी	4	4	8+4	20
प्रसूति एवं स्त्रीरोग-विज्ञान ²	4	4	8+4	20
बालरोग	2	4	4	10
कम्युनिटी मेडिसिन	4	6	-	10
अस्थि रोग – अभिज्ञात ³ सहित	2	4	2	8
कान-नाक-गलारोग-विज्ञान	4	4	-	8
नेत्ररोग-विज्ञान	4	4	-	8
श्वसनी मेडिसिन	2	-	-	2
मनश्चिकित्सा	2	2	-	4
विकिरण निदान ⁴	2	-	-	2
त्वचारोग-विज्ञान, रतिजरोग-विज्ञान एवं कुष्ठरोग	2	2	2	6
दंत्य एवं संचेतनाहर	-	2	-	2
आकस्मिक स्थिति	-	2	-	2
जोड़	36	42	48	126

* वैकल्पिकों के 8 सप्ताहों में से चार सप्ताहों को नियमित नैदानिक तैनातियों में स्थान दिया जाएगा। नैदानिक तैनातियां समय सीमा के अंदर समायोजित की जा सकती हैं।

¹इस तैनाती में प्रयोगशाला मेडिसिन (पैरा-नैदानिक) और संक्रामक रोग (चरण III भाग I) शामिल हैं।

²इसमें मातृत्व प्रशिक्षण और परिवार कल्याण (परिवार नियोजन सहित) शामिल है।

³इस तैनाती में भौतिक मेडिसिन और पुनर्वास शामिल हैं।

⁴इस तैनाती में विकिरण थेरेपी, जहां कहीं उपलब्ध हो, शामिल है।

9. नए अध्यापन/ज्ञानार्जन घटक

9.1 आधारभूत पाठ्यक्रम

9.1.1 **लक्ष्य** : आधारभूत पाठ्यक्रम का लक्ष्य, किसी शिक्षार्थी को प्रभावी ढंग से मेडिसिन का अध्ययन करने के लिए तैयार करना है। यह दाखिले के पश्चात एक महीने की अवधि का होगा।

9.1.2 **उद्देश्य** : इसके उद्देश्य निम्नलिखित हैं:

(क) शिक्षार्थी को निम्नलिखित के प्रति अभिमुख करना:

- (i) चिकित्सा व्यवसाय और समाज में चिकित्सक की भूमिका;
- (ii) एमबीबीएस कार्यक्रम;
- (iii) देश में वैकल्पिक स्वास्थ्य प्रणाली और मेडिसिन का इतिहास;
- (iv) चिकित्सीय नैतिकता, मनोवृत्तियां और व्यावसायिकता;
- (v) स्वास्थ्य सुरक्षा प्रणाली और इसकी प्रदायगी;
- (vi) राष्ट्रीय स्वास्थ्य कार्यक्रम और नीतियां;
- (vii) सार्वभौमिक पूर्वोपाय और टीकाकरण;
- (viii) मरीज सुरक्षा और जीव जोखिम सुरक्षा;
- (ix) प्राथमिक देखभाल के सिद्धांत (जनरल और समुदाय आधारित देखभाल);
- (x) शैक्षिक परिवेश।

(ख) शिक्षार्थी को निम्नलिखित में उन्नत कौशल प्राप्त करने के लिए समर्थ बनाना:

- (i) भाषा;
- (ii) अंतर-वैयक्तिक संबंध;
- (iii) संसूचन;
- (iv) स्व-निर्देशित ज्ञानार्जनसहित ज्ञानार्जन;
- (v) समय प्रबंधन;
- (vi) तनाव प्रबंधन;
- (vii) सूचना प्रौद्योगिकी का इस्तेमाल।

(ग) शिक्षार्थी को निम्नलिखित उपलब्ध कराने के लिए प्रशिक्षित करना:

- (i) प्रथमोपचार;
- (ii) मौलिक लाइफ सपोर्ट;

9.1.3 उपर्युक्त के अलावा, शिक्षार्थियों को निम्नलिखित कार्यक्रमों, जो समसामयिक चलेंगे, में से एक कार्यक्रम में नामांकित किया जा सकता है:

- (क) स्थानीय भाषा कार्यक्रम
- (ख) अंग्रेजी भाषा कार्यक्रम
- (ग) कंप्यूटर कौशल
- (घ) ये कार्यक्रम आधारभूत पाठ्यक्रम की अवधि के लिए दिन के अंतिम दो घंटों में किए जा सकते हैं

9.1.4 ये सत्र, जहां तक संभव हो, परस्पर विचार-विमर्शी होने चाहिए।

9.1.5 खेलकूद : (इसका इस्तेमाल संरक्षित 04 घंटे/सप्ताह के रूप में आधारभूत पाठ्यक्रम के जरिए किया जाएगा।)

9.1.6 आराम और कार्योत्तर क्रियाकलाप (इनका इस्तेमाल संरक्षित 02 घंटे प्रति सप्ताह के रूप में आधारभूत पाठ्यक्रम के जरिए किया जाएगा।)

9.1.7 संस्थान ज्ञानार्जन मॉड्यूल तैयार करेंगे और उनकी प्रदायगी के लिए समुचित विद्वान व्यक्तियों का पता लगाएंगे।

9.1.8 आधारभूत पाठ्यक्रम के लिए समर्पित समय का इस्तेमाल किसी अन्य कार्योत्तर क्रियाकलाप के लिए नहीं किया जाएगा।

9.1.9 आधारभूत पाठ्यक्रम में 75 प्रतिशत उपस्थिति अनिवार्य होगी। इसे कॉलेज के डीन द्वारा प्रमाणित किया जाएगा।

9.1.10 आधारभूत पाठ्यक्रम कॉलेज के डीन द्वारा नियुक्त किए गए समन्वयकर्ता द्वारा आयोजित किया जाएगा और नैदानिक-पूर्व विभाग प्रमुखों के पर्यवेक्षण में होगा।

9.1.11 प्रत्येक कॉलेज को माता-पिता और उनके आश्रितों से मिलने की व्यवस्था करनी चाहिए।

9.2 प्रारंभिक नैदानिक अनुभव

9.2.1 उद्देश्य : प्रथम वर्ष के चिकित्सा शिक्षार्थियों के आरंभिक नैदानिक अनुभव के उद्देश्य शिक्षार्थी को निम्नलिखित में समर्थ बनाना है:

- (क) निदान, मरीज की देखभाल और उपचार में मौलिक विज्ञानों की सुसंगतता की पहचान करना।
- (ख) ऐसा संदर्भ उपलब्ध कराना, जो मौलिक विज्ञान के ज्ञानार्जन में वृद्धि करेगा।
- (ग) ज्ञानार्जन में एक अभिप्रेरण के रूप में मरीजों के अनुभव के साथ संबंध स्थापित करना।
- (घ) चिकित्सक-मरीज संबंध को अभिन्न भाग के रूप में मनोवृत्ति, नैतिकता और व्यावसायिकता की पहचान करना।
- (ङ) मानविकियों के अध्ययन के जरिए रोग के सामाजिक-सांस्कृतिक संदर्भ को समझना।

9.2.2 घटक

- (क) मौलिक विज्ञान सहसंबद्धता : अर्थात् मौलिक विज्ञानों के सिद्धांतों को लागू करना और सहसंबद्ध करना, क्योंकि वे मरीज की देखभाल से संबंधित हैं (यह एकीकृत मॉड्यूल का भाग होगा)।
- (ख) नैदानिक कौशल : मरीजों का साक्षात्कार करने, चिकित्सक-मरीज संसूचन, नैतिकता और व्यावसायिकता, समालोचनात्मक विचार और विश्लेषण तथा स्व-ज्ञानार्जन में मौलिक कौशल शामिल करना (यह प्रशिक्षण प्रारंभिक नैदानिक अनुभव के लिए आवंटित समय में प्रदान किया जाएगा)।
- (ग) मानविकियां : शिक्षार्थियों को सामाजिक-आर्थिक ढांचे और सांस्कृतिक संबंध की व्यापक समझबूझ से परिचित कराना, जिसके अंदरमानविकियों और सामाजिक-विज्ञानों के अध्ययन के जरिए स्वास्थ्य की प्रदायगी की जाती है।

9.3 वैकल्पिक

9.3.1 उद्देश्य : शिक्षार्थी को निम्नलिखित अवसर प्रदान करना:

- (क) विविध ज्ञानार्जन अनुभवों के लिए।
- (ख) ऐसे अनुसंधान/सामुदायिक परियोजनाएं करना, जो जांच, स्व-निर्देशित, अनुभवजन्य ज्ञानार्जन और पार्श्विक विचार को प्रेरित करेंगे।

9.3.2 तृतीय एमबीबीएस भाग-1 के अंत में परीक्षाएं पूरी करने के पश्चात और तृतीय एमबीबीएस भाग-1 के प्रारंभण से पहले वैकल्पिक रोटेशनों के लिए दो महीने निश्चित किए गए हैं।

9.3.3 यह वैकल्पिक करना शिक्षार्थियों के लिए अनिवार्य है। वैकल्पिक समय का इस्तेमाल छूट गई नैदानिक तैनातियां, उपस्थिति की कमी पूरी करने या अन्य उद्देश्यों के लिए नहीं किया जाना चाहिए।

9.3.4 संरचना :

- (क) शिक्षार्थी चार-चार सप्ताह के दो वैकल्पिक ब्लॉकों के जरिए रोटेट करेगा।
- (ख) ब्लॉक 1, पूर्व-चयनित पूर्व नैदानिक या पैरा-नैदानिक या अन्य मौलिक विज्ञान प्रयोगशाला में या किसी अन्य चल रही अनुसंधान परियोजना में किसी अनुसंधानकर्ता के अधीन किया जाएगा।
वैकल्पिकों के दौरान नियमित नैदानिक तैनातियां जारी रहेंगी।

- (ग) ब्लॉक 2, तैयार की गई और संस्थान में उपलब्ध वैकल्पिकों की सूची से किसी नैदानिक विभाग (विशेषज्ञता, अति विशेषज्ञता, सघन चिकित्सा इकाई, रक्त बैंक या दुर्घटना विभाग सहित) में किया जाएगा।

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किसी ग्रामीण या शहरी सामुदायिक निदान गृह में पर्यवेक्षित ज्ञानार्जन अनुभव के रूप में किया जाएगा।

- (घ) संस्थान पहले से ही वैकल्पिकों की संख्या और स्वरूप, पर्यवेक्षकों के नाम तथा स्थानीय स्थितियों पर आधारित प्रत्येक वैकल्पिक में शिक्षार्थियों की संख्या, उपलब्ध विद्वान और संकाय सदस्य निर्धारित करेंगे।

9.3.5 प्रत्येक संस्थान वैकल्पिकों के आवंटन के लिए अपना स्वयं का तंत्र विकसित करेगा।

- 9.3.6 इस बात को वरीयता दी जाती है कि शिक्षार्थियों को शैक्षिक वर्ष के आरंभ में ही वैकल्पिक का चयन उपलब्ध करा दिया जाए।
- 9.3.7 शिक्षार्थी को वैकल्पिक के दोनों ब्लॉकों के आधार पर एक ज्ञानार्जन लॉग-बुक प्रस्तुत करनी चाहिए।
- 9.3.8 एमबीबीएस की अंतिम परीक्षा में बैठने का पात्र होने के लिए वैकल्पिकों में 75 प्रतिशत उपस्थिति और वैकल्पिक के दौरान रखी गई लॉग-बुक का प्रस्तुतीकरण आवश्यक है।
- 9.3.9 संस्थान इस समय के भाग का इस्तेमाल मौलिक कौशल प्रमाणन को सशक्त बनाने के लिए कर सकते हैं।

9.4 मनोवृत्ति, नैतिकता एवं संसूचन मॉड्यूल (एटकॉम) सहित व्यावसायिक विकास

9.4.1 **कार्यक्रम के उद्देश्य :** कार्यक्रम के अंत में शिक्षार्थी को निम्नलिखित में योग्यता प्रदर्शित करनी चाहिए:

- (क) जीव-नैतिकता और विधि के सिद्धांत समझना और उन्हें लागू करना, क्योंकि वे मेडिकल प्रैक्टिस और अनुसंधान पर लागू होते हैं।
- (ख) नैदानिक तर्कसंगतता के सिद्धांत समझना और उन्हें लागू करना, क्योंकि वे मरीजों की देखभाल पर लागू होते हैं।
- (ग) प्रणाली आधारित देखभाल के सिद्धांत समझना और उन्हें लागू करना, क्योंकि वे मरीज की देखभाल से संबंधित हैं।
- (घ) मरीज की देखभाल के लिए परानुभूति और अन्य मानव मूल्य समझना और उन्हें लागू करना।
- (ङ) मरीजों, परिवारों, सहयोगियों और अन्य स्वास्थ्य सुरक्षा व्यवसायविदों के साथ प्रभावी रूप से संसूचित करना।
- (च) वैकल्पिक औषध प्रणालियों की शक्ति और सीमाएं समझना।
- (छ) व्यावसायिक, विचारशील और मानवीय तरीके से घटनाओं और मुद्दों के प्रति प्रतिक्रिया दर्शाना।
- (ज) उसकी व्यावसायिक और व्यक्तिगत प्रगति में वृद्धि करने की दृष्टि से मानविकियों से ज्ञानार्जन रूपांतरित करना।

9.4.2 **ज्ञानार्जन अनुभव :**

- (क) यह इंटर्नशिप सहित एमबीबीएस कार्यक्रम के पूरे सांत्व्यक में फैला एक लंबा कार्यक्रम होगा।
- (ख) ज्ञानार्जन अनुभव में, लघु समूह चर्चाएं, मरीज देखभाल परिदृश्य, कार्यशाला, संगोष्ठियां, भूमिकाएं निभाना, व्याख्यान आदि शामिल हो सकते हैं।
- (ग) भारतीय आयुर्विज्ञान परिषद द्वारा तैयार किए गए मनोवृत्ति, नैतिकता एवं संसूचन मॉड्यूल (एटकॉम मॉड्यूल) का इस्तेमाल निर्देश के उद्देश्यों के लिए व्यापक रूप से किया जाएगा।

9.4.3 प्रत्येक व्यावसायिक वर्ष में अंतिम परीक्षा में बैठने की पात्रता के लिए व्यावसायिक विकास कार्यक्रम (एटकॉम मॉड्यूल) में 75 प्रतिशत उपस्थिति आवश्यक है।

9.4.4 आंतरिक मूल्यांकन में निम्नलिखित शामिल होंगे:

- (क) लिखित परीक्षाएं, जिनमें संक्षिप्त टिप्पणियां और रचनात्मक लेखन अनुभव शामिल हैं।
- (ख) ओएससीई आधारित नैदानिक परिदृश्य/मौखिक परीक्षा।

9.4.5 विश्वविद्यालय की परीक्षा में नैदानिक विशेषज्ञताओं के प्रत्येक प्रश्नपत्र में कम से कम एक प्रश्न में व्यावसायिक विकास कार्यक्रम के दौरान अर्जित ज्ञान सक्षमताओं की जांच होनी चाहिए।

9.4.6 नैदानिक, प्रयोगात्मक और मौखिक परीक्षा के दौरान, व्यावसायिक विकास कार्यक्रम के दौरान अर्जित कौशल सक्षमताओं का परीक्षण किया जाना चाहिए।

9.5 नैदानिक प्रशिक्षण की शिक्षार्थी-चिकित्सक पद्धति(नैदानिक क्लर्कशिप)

9.5.1 लक्ष्य : शिक्षार्थियों को निम्नलिखित में अनुभव प्रदान करना:

- (क) व्यापक मरीज देखभाल
- (ख) स्वास्थ्य सुरक्षा दल का भाग होना
- (ग) बहिरंग रोगी और अंतरंग रोगी विभाग में मरीजों की देखभाल का व्यावहारिक अनुभव।

9.5.2 संरचना :

- (क) द्वितीय व्यावसायिक में प्रथम नैदानिक तैनाती शिक्षार्थियों को मरीज, उनकी भूमिकाओं और विशेषज्ञता के प्रति अभिमुख करेगी।
- (ख) शिक्षार्थी-चिकित्सक कार्यक्रम में, सारणी 9 में यथावर्णित प्रगति की जाएगी।
- (ग) शिक्षार्थी निम्नलिखित जिम्मेदारियों के साथ स्वास्थ्य सुरक्षा दल के एक भाग के रूप में कार्य करेगा:
 - (i) दाखिले के दिनों में इकाई की बहिरंग सेवाओं का भाग बनना
 - (ii) निश्चित किए गए कक्षा के घंटों के दौरान की अवधि को छोड़कर, अपराह्न 6.00 बजे तक दाखिल इकाई में रहना;
 - (iii) दाखिले के प्रत्येक दिन के दौरान दाखिल किए गए मरीजों के लिए अभ्यर्पित रहना, जिनके लिए वह किसी वरिष्ठ रेजिडेंट या संकाय सदस्य के पर्यवेक्षण में जिम्मेदारी का निर्वहन करेगा/करेगी;
 - (iv) दाखिले के दिन इकाई के राउंडों में भाग लेगा और पर्यवेक्षण चिकित्सक को सौंपे गए मरीजों की रिपोर्ट प्रस्तुत करेगा;
 - (v) अस्पताल से छुट्टी होने तक अस्पताल में रहने की पूरी अवधि के दौरान मरीज की प्रगति पर नजर रखेगा;
 - (vi) सौंपे गए मरीजों की प्रक्रियाओं, शल्यचिकित्साओं और डिलिवरियों आदि में पर्यवेक्षण के अधीन भाग लेगा (सारणी 9 में वर्णित जिम्मेदारियों के अनुसार);
 - (vii) दाखिले के दिन को छोड़कर, सप्ताह के कम से कम किसी अन्य एक दिन इकाई के राउंडों में भाग लेगा;
 - (viii) इकाई में राउंडों के दौरान नैतिकता और अन्य मानवीय मुद्दों पर चर्चा करेगा;
 - (ix) सभी कार्यक्रमबद्ध कक्षाओं और शैक्षिक क्रियाकलापों में भाग लेगा;
 - (x) विनिर्धारित लॉग-बुक/मामले के रिकार्ड में अपने अवलोकन दर्ज करेगा।
- (घ) किसी भी शिक्षार्थी को मरीज का स्वतंत्र प्रभार नहीं दिया जाएगा।
- (ङ) मरीज की देखभाल के सभी निर्णयों के लिए पर्यवेक्षण चिकित्सक जिम्मेदार होगा।

9.5.3 मूल्यांकन:

- (क) प्रत्येक इकाई में नामोद्दिष्ट संकाय सदस्य शिक्षार्थी के क्रियाकलापों का समन्वय और सुविधाकरण करेगा, प्रगति मॉनीटर करेगा, फीडबैक उपलब्ध कराएगा और लॉग-बुक/मामले के रिकार्ड की समीक्षा करेगा।
- (ख) लॉग-बुक/मामला रिकार्ड में, सुसंगत जांचों, उपचार और इसके तर्काधारों, अस्पताल पाठ्यक्रम, परिवार और मरीज के साथ चर्चाओं, डिस्चार्ज सारांश आदि सहित शिक्षार्थी द्वारा तैयार किया गया लिखित मामला रिकार्ड शामिल होना चाहिए।
- (ग) लॉग-बुक में सौंपे गए बहिरंग रोगियों के रिकार्ड भी शामिल होने चाहिए। विषय की अंतिम परीक्षा में बैठने के लिए पात्रता हेतु लॉग-बुक/मामला रिकार्ड का विभाग को प्रस्तुतीकरण आवश्यक है।

सारणी 9 : शिक्षार्थी-चिकित्सक कार्यक्रम (नैदानिक क्लर्कशिप)

पाठ्यचर्या का वर्ष	शिक्षार्थी-चिकित्सक कार्यक्रम का ध्यान केंद्रण
वर्ष 1	अस्पताल के वातावरण का परिचय, आरंभिक नैदानिक अनुभव, रोग के परिप्रेक्ष्य समझना
वर्ष 2	इतिवृत्त लेना, शारीरिक जांच, नैदानिक स्थिति में परिवर्तन का मूल्यांकन, संसूचन और मरीज शिक्षण
वर्ष 3	उपर्युक्त में से सभी और जांचों का चयन, मूल प्रक्रियाएं और देखभाल की निरंतरता
वर्ष 4	उपर्युक्त में से सभी और निर्णय लेना, प्रबंधन तथा परिणाम।

अध्याय V

भारतीय चिकित्सा स्नातक कार्यक्रम की सक्षमता आधारित पाठ्यचर्या

10. विशिष्ट सक्षमताएं

10.1 **आमुख:** वर्ष 2019 में चिकित्सा पाठ्यचर्या के संशोधन की प्रमुख विशेषता, ज्ञानार्जन पर जोर देना है, जो सक्षमता आधारित, एकीकृत और कौशल तथा नैतिक एवं मानवीय मूल्यों की शिक्षार्थी केंद्रित प्राप्ति है।

नीचे विनिर्धारित सक्षमताओं में से प्रत्येक को मद संख्या 2 से 3.5.5 तक में सूचीबद्ध चिकित्सा शिक्षा के लक्ष्यों से जोड़कर पढ़ा जाना चाहिए।

यह संस्तुति की जाती है कि शिक्षात्मक अध्यापन को, उस विधा के लिए आवंटित कुल समय के एक-तिहाई से कम तक सीमित रखा जाए। व्यावहारिक प्रशिक्षण, विचार-गोष्ठियों, संगोष्ठियों, लघु समूह चर्चाओं, समस्या उन्मुखी और समस्या आधारित चर्चाओं तथा स्व-निर्देशित ज्ञानार्जन पर अधिक जोर दिया जाना चाहिए। शिक्षार्थी को उनके ज्ञानार्जन के लिए जिम्मेदारी में सक्रिय रूप से भाग लेने और उन्हें साझा करने के लिए प्रोत्साहित किया जाना चाहिए।

शिक्षार्थी द्वारा प्राप्त की जाने वाली वैश्विक सक्षमताएं अध्याय I - भाग-III में ऊपर वर्णित की गई हैं। चूंकि एमबीबीएस कार्यक्रम का मूल्यांकन विषय आधारित बना रहेगा, इसलिए विषय-विशिष्ट सक्षमताओं की रूपरेखा दी गई है। इन्हें तदनुसारी व्यावसायिक वर्ष में शिक्षार्थी द्वारा प्राप्त किया जाएगा। इन सक्षमताओं की व्याख्या

भाग-III में वर्णित व्यापक संदर्भ में की जानी चाहिए और इन्हें वैश्विक सक्षमताओं की "उप सक्षमताओं" के रूप में माना जा सकता है।

- 10.2 एकीकरण ऊर्ध्वाधर (अर्थात् पाठ्यक्रम के किसी निश्चित चरण में पूरी विधाओं में) और अनुप्रस्थ (पाठ्यक्रम के सभी भिन्न-भिन्न चरणों में) अवश्य होना चाहिए। ज्ञानार्जन प्रक्रिया को अनुरूप बनाने की दृष्टि से जहां तक संभव हो, यह वांछनीय है कि अध्यापन/ज्ञानार्जन आर्गन सिस्टम्स या रोग ब्लॉकों के अध्ययन के जरिए प्रत्येक चरण में किया जाए। नैदानिक मामलों का इस्तेमाल सभी विधाओं में ज्ञानार्जन के साथ एकीकृत करने और जोड़ने के लिए किया जाना चाहिए।

10.3 पूर्व-नैदानिक विषय:

10.3.1 मानव शरीररचना-विज्ञान :

(क) सक्षमताएं : स्नातक-पूर्व शिक्षार्थी को निम्नलिखित प्रदर्शित करने चाहिए:

1. सकल और माइक्रोस्कोपिक संरचना तथा मानव शरीर के विकास की समझबूझ,
2. संरचना और जेनेटिक पैटर्न के आधार पर अंगों तथा प्रणालियों के कार्यों के सामान्य विनियमन और एकीकरण की समझ,
3. संबंधित अंगों और संरचनाओं की नैदानिक सह-संबद्धता की समझबूझ और रोग प्रस्तुतीकरणों के शरीररचना-विज्ञान संबंधी आधार की व्याख्या।

(ख) एकीकरण : इस अध्यापन को नैदानिक सह-संबद्धता के साथ अंग प्रणाली के अनुरूप और ऊर्ध्वाधर तथा अनुप्रस्थ रूप से एकीकृत बनाया जाना चाहिए, जो संरचना और कार्य के बीच संबंध को समझने के लिए और विभिन्न नैदानिक स्थितियों तथा प्रक्रियाओं के शरीररचना-विज्ञान संबंधी आधार की व्याख्या करने में शिक्षार्थी के लिए एक संदर्भ उपलब्ध कराएगा।

10.3.2 शरीरक्रिया-विज्ञान:

(क) सक्षमताएं : स्नातक-पूर्व शिक्षार्थियों को निम्नलिखित प्रदर्शित करना चाहिए:

1. शरीर के अंगों और अंग प्रणाली के सामान्य कार्यचालन की समझबूझ;
2. कार्यों के आधार पर अंगों और प्रणालियों की सामान्य संरचना और संघटन की समझ;
3. अंग कार्यों में आयु संबंधी मनोवैज्ञानिक परिवर्तनों की समझबूझ, जो सामान्य वृद्धि और विकास दर्शाते हैं;
4. रोगों के मनोवैज्ञानिक आधार की समझबूझ।

(ख) एकीकरण : एक ऐसा संदर्भ उपलब्ध कराने की दृष्टि से, जिसमें सामान्य कार्य को संरचना और जीवविज्ञान संबंधी आधार दोनों के साथ, इसकी नैदानिक विशेषताओं, निदान और थेरेपी के साथ सहसंबद्ध किया जा सके, अंग प्रणालियों के अनुरूप और ऊर्ध्वाधर तथा अनुप्रस्थ रूप से एकीकृत बनाया जाना चाहिए।

10.3.3 जीवरसायन :

इस पाठ्यक्रम में आण्विक और कोशिकीय जीवरसायन शामिल होंगे।

(क) सक्षमताएं : शिक्षार्थी को निम्नलिखित की समझबूझ प्रदर्शित करनी चाहिए:

1. स्वास्थ्य और रोग में शामिल जीवरसायन तथा आण्विक प्रक्रियाएं;

2. स्वास्थ्य और रोग में पोषाहार का महत्व;
3. नैदानिक प्रयोगशाला परीक्षणों का जीवरसायन संबंधी आधार और तर्काधार तथा नैदानिक संदर्भ में इनकी व्याख्या करने की योग्यता प्रदर्शित करना।

(ख) **एकीकरण** : अध्यापन/ज्ञानार्जन कार्यक्रम को, जहां तक संभव हो, ऊर्ध्वाधर और अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए ताकि शिक्षार्थियों को नैदानिक सहसंबद्धता बनाने और स्वास्थ्य तथा रोग के कोशिकीय और आणविक आधार की समझबूझ प्राप्त करने में समर्थ बनाया जा सके।

10.3.4 कम्युनिटी मेडिसिन का परिचय :

(क) **सक्षमताएं** : स्नातक-पूर्व शिक्षार्थी को निम्नलिखित प्रदर्शित करने चाहिए:

1. स्वास्थ्य और रोग की अवधारणा की समझबूझ;
2. राष्ट्रीय और वैश्विक संदर्भ में जनसांख्यिकी, जनसंख्या गतिकता और रोग के भार की समझबूझ;
3. स्वास्थ्य के अर्थशास्त्र और अस्पताल प्रबंधन के सिद्धांतों की समझ;
4. राष्ट्रीय और राज्य स्वास्थ्य कार्यक्रमों में यथाविचारित स्वास्थ्य को बढ़ावा देने और रोगों की रोकथाम करने के लिए हस्तक्षेपों की समझबूझ।

10.4 द्वितीय व्यावसायिक (पैरा-नैदानिक) :

10.4.1 रोग-विज्ञान:

(क) **सक्षमताएं** : स्नातक-पूर्व शिक्षार्थी को निम्नलिखित प्रदर्शित करने चाहिए:

1. रोगों के कारणों, उत्पत्ति और तंत्रों की समझ;
2. रोगों की स्थितियों में अंगों के सकल और कोशिकीय आकृति-विज्ञान में परिवर्तनों की जानकारी;
3. रोगों की नैदानिक अभिव्यक्तियों, उनके निदान और थेरेपी के साथस्वाभाविक इतिवृत्त, संरचनात्मक और कार्यात्मक परिवर्तनों को सहसंबद्ध करने की योग्यता।

(ख) **एकीकरण** : अध्यापन को सामान्य संरचना और कार्य तथा नैदानिक रूप से सहसंबद्ध से विषयनों को स्वीकार करते हुए अंग प्रणालियों के अनुरूप और ऊर्ध्वाधर तथा अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए ताकि रोगों के हेतु-विज्ञान, तंत्रों, प्रयोगशाला निदान तथा प्रबंधन की समग्र समझबूझ उपलब्ध कराई जा सके।

10.4.2 सूक्ष्मजीव-विज्ञान:

(क) **सक्षमताएं** : स्नातक-पूर्व शिक्षार्थी को निम्नलिखित प्रदर्शित करने चाहिए:

1. स्वास्थ्य और रोग में सूक्ष्मजीव-विज्ञान के कारकों की भूमिका की समझबूझ,
2. स्वास्थ्य और रोग में प्रतिरक्षा-विज्ञान संबंधी तंत्रों की समझबूझ,
3. संक्रामक रोगों के स्वाभाविक इतिवृत्त, तंत्रों और नैदानिक अभिव्यक्ति को सहसंबद्ध करने की योग्यता क्योंकि वे सूक्ष्मजीव-विज्ञान के कारकों के गुणों से संबंधित हैं,
4. संक्रमण नियंत्रण उपायों के सिद्धांतों की जानकारी और अनुप्रयोग,

5. प्रयोगशाला नैदानिक परीक्षणों के विकल्प के आधार और उनकी व्याख्या, संक्रामक रोगों की सूक्ष्मजीव-विज्ञान प्रतिरोधी थेरेपी, नियंत्रण और रोकथाम की समझबूझ।

(ख) **एकीकरण** : अध्यापन को होस्ट-माइक्रोब-पर्यावरण विचार-विमर्श और रोग तथा नैदानिक सहसंबद्धताओं में उनके परिवर्तनों पर जोर देते हुए अंग प्रणालियों के अनुरूप और ऊर्ध्वाधर तथा अनुप्रस्थ रूप से एकीकृत बनाए जाने चाहिए ताकि हेतुविज्ञान के कारकों, उनके प्रयोगशाला निदान तथा रोकथाम की समग्र समझबूझ उपलब्ध कराई जा सके।

10.4.3 भेषज-विज्ञान :

(क) **सक्षमताएं** : स्नातक-पूर्व शिक्षार्थी को निम्नलिखित प्रदर्शित करने चाहिए:

1. अनिवार्य और सामान्यतः इस्तेमाल की जाने वाली औषधियों के बारे में जानकारी और चिकित्सा-विज्ञान के भेषज-विज्ञान संबंधी आधार की समझबूझ;
2. राष्ट्रीय महत्व की सामान्य नैदानिक स्थितियों के लिए औषधियों और भेषज-विज्ञान संबंधी गुणों, प्रभावोत्पादकता, सुरक्षा, उपयुक्तता और लागत के आधार पर औषधियों का चयन करने और प्रेसक्राइब करने की योग्यता;
3. भेषज सतर्कता, आवश्यक औषधि अवधारणा और औषध सूचना के स्रोत तथा उद्योग-चिकित्सक संबंध का ज्ञान;
4. प्रेसक्राइब की गई औषधि के समुचित इस्तेमाल और औषध प्रदायगी प्रणालियों के संबंध में मरीजों को परामर्श देने की योग्यता।

(ख) **एकीकरण** : थेरेपी के संदर्भ की समग्र समझबूझ उपलब्ध कराने की दृष्टि से अध्यापन को औषधि, होस्ट और रोग के बीच परस्पर क्रिया की पहचान करते हुए अंग प्रणालियों के अनुरूप और ऊर्ध्वाधर तथा अनुप्रस्थ रूप से एकीकृत बनाए जाने चाहिए।

10.4.4 फॉरेंसिक मेडिसिन और विष-विज्ञान :

(क) **सक्षमताएं** : शिक्षार्थी को निम्नलिखित प्रदर्शित करने चाहिए:

1. प्राथमिक और द्वितीयक देखभाल स्थापनाओं में चिकित्सकों की चिकित्सीय-विधिक जिम्मेदारियों की समझबूझ;
2. वैज्ञानिक और विधिक सिद्धांतों पर आधारित, अपराध की जांच-पड़ताल के प्रति तर्कसंगत दृष्टिकोण की समझबूझ;
3. विष देने/ओवरडोज के मामले में चिकित्सीय और विधिक मुद्दों के प्रबंधन की योग्यता;
4. मेडिकल प्रैक्टिस और चिकित्सीय लापरवाही के चिकित्सीय-विधिक ढांचे की समझबूझ;
5. आचार संहिता और चिकित्सीय नैतिकता की समझबूझ।

(ख) **एकीकरण** : चिकित्सीय-विधिक, नैतिकता एवं विष-विज्ञान संबंधी मुद्दों का महत्व स्वीकार करते हुए, अध्यापन को अनुरूप तथा ऊर्ध्वाधर तथा अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए क्योंकि वे चिकित्सा पद्धति से संबंधित हैं।

10.4.5 कम्युनिटी मेडिसिन: 10.3.4 के अनुसार।

10.5 तृतीय व्यावसायिक (भाग-I) :

10.5.1 जनरल मेडिसिन:

(क) **सक्षमताएं** : छात्र को समुदाय में वयस्कों की सामान्य चिकित्सा समस्याओं के संबंध में निम्नलिखित करने की योग्यता दर्शानी चाहिए:

1. रोग-शरीरक्रिया-विज्ञान के आधार, महामारी-विज्ञान के प्रोफाइल, रोग के लक्षणों और संलक्षणों तथा उनकी जांच और प्रबंधन की समझबूझ प्रदर्शित करना।
2. किसी वयस्क मरीज का सक्षमतापूर्वक साक्षात्कार और जांच करना तथा एक नैदानिक निदान करना।
3. समुचित रूप से प्रयोगशाला परीक्षणों की व्यवस्था और व्याख्या करना।
4. तर्कसंगत औषध प्रेसक्रिप्शनों, आवश्यक चिकित्सीय हस्तक्षेपों और निवारक उपायों की समझबूझ के आधार पर समुचित किफायती उपचार आरंभ करना।
5. चिकित्सीय समस्याओं वाले मरीजों का अनुवर्तन करना और जब कभी आवश्यक हो, रेफर करना।
6. मरीज और परिवार के साथ प्रभावी रूप से संसूचन करना, शिक्षित करना और काउंसिल करना।
7. सामान्य चिकित्सीय आपातकालिक स्थितियों का प्रबंधन करना और जब आवश्यक हो, रेफर करना।
8. स्वतंत्र रूप से सामान्य चिकित्सीय प्रक्रियाएं सुरक्षित रूप से करना और मरीज के सुरक्षा मुद्दे समझना।

(ख) **एकीकरण** : सुदृढ़ जीवविज्ञान का आधार उपलब्ध कराने की दृष्टि से और जनरल मेडिसिन के सिद्धांत मरीज की देखभाल का हॉलिस्टिक तथा व्यापक दृष्टिकोण शामिल करते हुए, अध्यापन को ऊर्ध्वाधर तथा अनुप्रस्थ ढंग से अनुकूल बनाना तथा एकीकृत करना।

10.5.2 जनरल सर्जरी:

(क) **सक्षमताएं** : छात्र को निम्नलिखित प्रदर्शित करना चाहिए:

1. संरचनात्मक और कार्यात्मक आधार, वयस्कों और बच्चों में सामान्य सर्जिकल समस्याओं के निदान और प्रबंधन के सिद्धांतों की समझबूझ।
2. नैदानिक स्थिति के आधार पर इंटरवीनस फ्लुइड, इलेक्ट्रोलाइट्स, रक्त और रक्त उत्पाद समुचित ढंग से चुनने, परिकलन करने तथा संचालित करने की योग्यता।
3. सर्जिकल प्रैक्टिस में एन्टिबायोटिक्स और सार्वभौमिक पूर्वोपायों के चिकित्सीय उपयोगों, प्रोपिलैक्सिस के तर्कसंगत इस्तेमाल, ऐस्पिसिस, स्टैरलाइजेशन, डिसइंफेक्शन के सिद्धांत लागू करने की योग्यता।
4. भारत में सामान्य घातक पदार्थों और उनकी रोकथाम, प्रारंभिक पहचान और थेरेपी की जानकारी।
5. प्राथमिक देखभाल स्तर पर सामान्य नैदानिक और सर्जिकल प्रक्रियाएं करने की योग्यता।
6. अभिघात का अनुसरण करते हुए मरीजों की पहचान कराने, उन्हें पुनः जीवित कराने, उनकी स्थिति को स्थिर बनाने तथा मौलिक एवं उन्नत लाइफ सपोर्ट उपलब्ध कराने की योग्यता।
7. सर्जिकल क्रियाओं से पहले मरीज की संसूचित सहमति प्राप्त करने और परामर्श देने की योग्यता।

8. सर्जिकल प्रैक्टिस में गुणवत्ता की प्रगति और मरीज की सुरक्षा के प्रति समर्पण।

(ख) **एकीकरण** : सर्जिकल मरीज की देखभाल के प्रति एक सुदृढ़ सूक्ष्मजीव-विज्ञान आधार और हॉलिस्टिक दृष्टिकोण उपलब्ध कराने की दृष्टि से अध्यापन को अनुकूल तथा ऊर्ध्वाधर और अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए।

10.5.3 प्रसूति एवं स्त्रीरोग-विज्ञान:

(क) **प्रसूति में सक्षमताएं** : छात्र को निम्नलिखित में योग्यता प्रदर्शित करनी चाहिए:

1. गर्भधारण-पूर्व परामर्श और प्रसव-पूर्व देखभाल उपलब्ध कराना।
2. उच्च जोखिम वाली गर्भावस्थाओं की पहचान करना और समुचित ढंग से रेफर करना।
3. प्राथमिक और द्वितीयक देखभाल स्थापनाओं में सुरक्षित प्रसूति पद्धतियों का इस्तेमाल करते हुए सामान्य प्रसव कराना।
4. गर्भावस्था और स्तनपान में सुरक्षित तथा समुचित ढंग से औषधियां प्रेसक्राइब करना।
5. प्रसव पीड़ा की जटिलताओं का निदान करना, प्राथमिक देखभाल करना और समय से रेफर करना।
6. प्रारंभिक नव-प्रसव पुनरुज्जीवन संपन्न करना।
7. स्तनपान में शिक्षा सहित प्रसवोत्तर देखभाल उपलब्ध कराना।
8. गर्भनिरोधक के सही चयन में दम्पतियों को परामर्श तथा सहायता देना।
9. प्रयोगशाला के परीक्षण परिणामों और विकिरण निदान की जांचों की व्याख्या करना क्योंकि वे प्रसूति मरीज की देखभाल पर लागू होते हैं।
10. चिकित्सीय-विधिक सिद्धांत लागू करना क्योंकि वे ट्यूबेक्टॉमी, गर्भावस्था के चिकित्सीय परिसमापन (एमटीपी), गर्भधारण-पूर्व और प्रसव-पूर्व नैदानिक तकनीकों (पीसी पीएनडीटी अधिनियम) और अन्य संबंधित अधिनियमों पर लागू होते हैं।

स्त्रीरोग-विज्ञान में सक्षमताएं : छात्र को निम्नलिखित में योग्यता प्रदर्शित करनी चाहिए:

1. प्राथमिक देखभाल स्थापना में स्त्रीरोग-विज्ञान संबंधी इतिवृत्त प्रकाश में लाना, समुचित शारीरिक और क्षोणीय जांच तथा पीएपी स्मियर करना।
2. प्राथमिक देखभाल स्थापना में सामान्य प्रजनन मार्ग के संक्रमणों की पहचान करना, निदान करना और प्रबंधन करना।
3. सामान्य जननांगों के कैंसर की पहचान करना और उनका निदान करना तथा उन्हें समुचित ढंग से रेफर करना।

(ख) **एकीकरण** : राष्ट्रीय स्वास्थ्य प्राथमिकताओं के संदर्भ में संरचना, कार्यो तथा रोगों और उनके नैदानिक, सामाजिक, भावात्मक, मनोवैज्ञानिक संबंधों की सुदृढ़ जानकारी के आधार पर महिलाओं के प्रजनन वर्षों में और उसके पश्चात उन्हें व्यापक देखभाल उपलब्ध कराने की दृष्टि से अध्यापन को अनुरूप तथा ऊर्ध्वाधर और अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए।

10.5.4 बालरोग:

(क) **सक्षमताएं** : छात्र को निम्नलिखित प्रदर्शित करने चाहिए:

1. बच्चों और किशोरों की इष्टतम प्रगति, विकास और पोषाहार का मूल्यांकन करना और उसे प्रोत्साहित करने और सामान्य से विपथनों की पहचान करने की योग्यता।
2. नवजातों, शिशुओं, बच्चों और किशोरों के लिए आपातकालिक तथा नैत्यक ऐंबुलेटरी और प्रथम स्तरीय रेफरल इकाई देखभाल की पहचान करने और उपलब्ध कराने तथा जो समुचित हो, रेफर करने की योग्यता।
3. प्राथमिक देखभाल स्थापना में सभी आयु के बच्चों के लिए दर्शाई गई प्रक्रियाएं करने की योग्यता।
4. विशेष आवश्यकता वाले बच्चों की पहचान करने और उन्हें समुचित ढंग से रेफर करने की योग्यता।
5. बच्चों में स्वास्थ्य को बढ़ावा देने और रोगों की रोकथाम करने की योग्यता।
6. बाल स्वास्थ्य से संबंधित और नवजात और बचपन की बीमारियों (आईएमएनसीआई) रणनीति के एकीकृत प्रबंधन के अनुरूप राष्ट्रीय कार्यक्रमों में भाग लेने की योग्यता।
7. समुचित और प्रभावी ढंग से संसूचित करने की योग्यता।

(ख) **एकीकरण** : राष्ट्रीय स्वास्थ्य प्राथमिकताओं के संदर्भ में प्रगति, विकास, रोग और उनके निदान, सामाजिक, भावात्मक, मनोवैज्ञानिक संबंधों की सुदृढ़ जानकारी के आधार पर नवजात, शिशुओं, बच्चों और किशोरों को व्यापक देखभाल उपलब्ध कराने की दृष्टि को अध्यापन को अनुकूल तथा ऊर्ध्वाधर और अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए।

10.5.5 अस्थि रोग (अभिघात सहित) :

(क) **सक्षमताएं** : छात्र को निम्नलिखित प्रदर्शित करने चाहिए:

1. हड्डी की चोटों, विस्थापन और पॉलिअभिघात की पहचान और मूल्यांकन करने तथा समुचित रेफरल से पहले प्रथम संपर्क देखभाल उपलब्ध कराने की योग्यता।
2. अभिघात के चिकित्सीय-विधिक पहलुओं की जानकारी।
3. प्राथमिक देखभाल स्थापना में हड्डी और जोड़ों के सामान्य संक्रमणों की पहचान करने और उनका प्रबंधन करने की योग्यता।
4. सामान्य जन्मजात, मेटाबोलिक, नियोप्लास्टिक, डीजनरेटिव और इनफ्लेमेटरी अस्थि रोगों की पहचान करना और समुचित ढंग से रेफर करना।
5. किसी प्राथमिक देखभाल स्थापना और यथालागू सरल ऑर्थोपैडिक तकनीकें संपन्न करने की योग्यता।
6. सभी आयु में सामान्य ऑर्थोपैडिक समस्याओं के लिए पुनर्वास सेवाओं की संस्तुति करने की योग्यता।

(ख) **एकीकरण** : छात्र को ऑर्थोपैडिक समस्याओं का संरचनात्मक आधार, उनका प्रबंधन और जीवन के कार्य, पुनर्वास और गुणवत्ता के साथ सह-संबंध समझने देने की दृष्टि से यह अध्यापन अनुकूल और ऊर्ध्वाधर तथा अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए।

10.5.6 फॉरेंसिक मेडिसिन और विष-विज्ञान –10.4.4 के अनुसार।

10.5.7 कम्युनिटी मेडिसिन:

(क) **सक्षमताएं** : शिक्षार्थी को निम्नलिखित प्रदर्शित करने चाहिए:

1. स्वास्थ्य और रोग के भौतिक, सामाजिक, मनोवैज्ञानिक, आर्थिक और पर्यावरणीय अवधारकों की समझबूझ।
2. राष्ट्रीय स्वास्थ्य कार्यक्रमों के संदर्भ में व्यक्तिगत परिवार और सामुदायिक स्तर पर शारीरिक भावात्मक और सामाजिक पहलुओं सहित सामान्य स्वास्थ्य समस्याओं की पहचान और प्रबंधन करने की योग्यता।
3. प्राथमिक देखभाल स्थापना में राष्ट्रीय स्वास्थ्य कार्यक्रमों को लागू करने और मॉनीटर करने की योग्यता।
4. मातृत्व और बाल स्वास्थ्य की जानकारी क्योंकि वे राष्ट्रीय स्वास्थ्य देखभाल प्राथमिकताओं और कार्यक्रमों पर लागू होते हैं।
5. कुपोषण और आपातकालिक स्थितियों सहित सामुदायिक स्वास्थ्य समस्याओं की पहचान करने, जांच करने, सूचित करने, योजना बनाने और प्रबंधन करने की योग्यता।

(ख) **एकीकरण** : शिक्षार्थी को पर्यावरण, समाज और राष्ट्रीय स्वास्थ्य प्राथमिकताओं का प्रभाव समझने देने की दृष्टि से, क्योंकि वे स्वास्थ्य को बढ़ावा देने और रोग की रोकथाम तथा उपचार से संबंधित हैं, अध्यापन को अनुरूप तथा ऊर्ध्वाधर और अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए।

10.5.8 त्वचारोग-विज्ञान, रतिजरोग-विज्ञान और कुष्ठरोग:

(क) **सक्षमताएं** : स्नातक-पूर्व छात्र को निम्नलिखित प्रदर्शित करने चाहिए:

1. त्वचा, बाल, नाखून और श्लेष्म के रोगों के निदान के सिद्धांतों की समझबूझ।
2. प्राथमिक देखभाल स्थापना में कुष्ठरोग सहित त्वचा की सामान्य बीमारियों की पहचान करने, निदान करने, समुचित जांचों का आदेश देने और उपचार करने और जैसा समुचित हो, रेफर करने की योग्यता।
3. राष्ट्रीय स्वास्थ्य प्राथमिकताओं के आधार पर एचआईवी सहित सामान्य यौन संक्रमित रोग की पहचान, निदान, रोकथाम, काउंसलिंग, परीक्षण और प्रबंधन के प्रति एक संलक्षण आधारित दृष्टिकोण।
4. औषधि की प्रतिक्रियाओं सहित आपातकालिक स्थितियों की पहचान करने और उनका उपचार करने तथा समुचित ढंग से रेफर करने की योग्यता।

(ख) **एकीकरण** : त्वचा के रोगों, यौन संक्रमित रोगों और कुष्ठरोग के जीवविज्ञान संबंधी आधार पर जोर देने और एक ऐसी समझबूझ उपलब्ध कराने कि त्वचा रोग कायिक रोग की अभिव्यक्ति हो सकती है, की दृष्टि से अध्यापन को अनुकूल तथा ऊर्ध्वाधर और अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए।

10.5.9 मनश्चिकित्सा:

(क) **सक्षमताएं** : छात्र को निम्नलिखित प्रदर्शित करने चाहिए:

1. मानसिक स्वास्थ्य और मानसिक स्वच्छता को बढ़ावा देने की योग्यता।

2. सभी आयु में सामान्य मनोवैज्ञानिक विकृतियों के हेतु-विज्ञान (जीव-मनोवैज्ञानिक-सामाजिक-पर्यावरणीय अन्योन्यक्रियाओं), नैदानिक विशेषताओं, निदान और प्रबंधन का ज्ञान।
3. किसी प्राथमिक देखभाल स्थापना में सामान्य मनोवैज्ञानिक और मनश्चिकित्सीय विकृतियों की पहचान करने और उनका प्रबंधन करने, प्रबंधन करने में कठिन विकृतियों में प्रारंभिक उपचार आरंभ करने और समुचित ढंग से रेफर करने की योग्यता।
4. अल्कोहॉल/पदार्थ के अत्यधिक प्रयोग की विकृतियों की पहचान करने और उन्हें समुचित केंद्रों में रेफर करने की योग्यता।
5. आत्महत्या के लिए जोखिम का मूल्यांकन करने और समुचित ढंग से रेफर करने की योग्यता।
6. मिजाज संबंधी कठिनाइयों और वैयक्तिक विकृतियों की पहचान करने की योग्यता।
7. मानसिक विकलांगता का मूल्यांकन करना और समुचित ढंग से पुनर्वास करना।
8. ऐसे राष्ट्रीय और राज्य सरकारों के कार्यक्रमों की समझबूझ, जो मजबूत और समुदाय के मानसिक स्वास्थ्य और कल्याण की समस्या हल करते हों।

(ख) **एकीकरण** : छात्र को ऐसी जीव-मनोवैज्ञानिक-सामाजिक-पर्यावरणीय अन्योन्यक्रियाएं समझने देने की दृष्टि से, जिनके परिणामस्वरूप परिवार और समुदाय दोनों में मरीजों की देखभाल में निवारक, समर्थक, उपचारात्मक, स्वास्थ्य लाभ सेवाओं और चिकित्सीय-विधिक प्रभावों के लिए रोग/विकृतियां उत्पन्न होती हों, अध्यापन को अनुरूप और ऊर्ध्वाधर तथा अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए।

10.5.10 श्वसनी मेडिसिन :

(क) **सक्षमताएं** : छात्र को निम्नलिखित प्रदर्शित करने चाहिए:

1. सामान्य वक्षरोगों, उनकी नैदानिक अभिव्यक्तियों, निदान और प्रबंधन की जानकारी।
2. राष्ट्रीय तपेदिक नियंत्रण कार्यक्रम में यथाविचारित फुफ्फुसीय तपेदिक की पहचान करने, निदान करने और प्रबंधन करने की योग्यता।
3. प्राथमिक देखभाल स्थापना में सामान्य श्वसनी आपातकालिक स्थितियों का प्रबंधन करने और समुचित ढंग से रेफर करने की योग्यता।

(ख) **एकीकरण** : छात्र को समाज, राष्ट्रीय स्वास्थ्य प्राथमिकताओं, औषध प्रतिरोध और एचआईवी जैसी को-मोर्बिड स्थितियों के संदर्भ में तपेदिक की पहचान, निदान और उपचार करने देने की दृष्टि से अध्यापन को अनुरूप और ऊर्ध्वाधर तथा अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए।

10.5.11 कान-नाक-गलारोग-विज्ञान :

(क) **सक्षमताएं** : शिक्षार्थी को निम्नलिखित प्रदर्शित करने चाहिए:

1. सामान्य कान-नाक-गलारोग (ईएनटी) की आपातकालिक स्थितियों और समस्याओं का ज्ञान।
2. प्राथमिक देखभाल स्थापना में सामान्य ईएनटी आकस्मिक स्थितियों और समस्याओं की पहचान, निदान और प्रबंधन करने की योग्यता।
3. किसी प्राथमिक देखभाल स्थापना में यथालागू सरल ईएनटी प्रक्रियाएं करने की योग्यता।

4. श्रवण क्षति की पहचान करने और समुचित श्रवण क्षति पुनर्वास कार्यक्रम में रेफर करने की योग्यता।

(ख) **एकीकरण** : शिक्षार्थी को ईएनटी की समस्याओं, उनके प्रबंधन और कार्य, पुनर्वास और जीवन की गुणवत्ता के साथ सह-संबद्धता के संरचनात्मक आधार को समझने देने की दृष्टि से अध्यापन को अनुरूप और ऊर्ध्वाधर तथा अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए।

10.5.12 नेत्ररोग-विज्ञान :

(क) **सक्षमताएं** : छात्र को निम्नलिखित प्रदर्शित करने चाहिए:

1. समुदाय में आंख की सामान्य समस्याओं का ज्ञान।
2. आंख की सामान्य समस्याओं की पहचान, निदान और प्रबंधन करना तथा रेफरल के लिए संकेतों का पता लगाना।
3. समुदाय में चाक्षुक क्षति और नेत्रहीनता की पहचान करने और प्राथमिक देखभाल स्थापना में यथालागू राष्ट्रीय कार्यक्रम कार्यान्वित करने की योग्यता।

(ख) **एकीकरण** : छात्र को नेत्ररोग-विज्ञान की समस्याओं का संरचना आधार, उनका प्रबंधन और कार्य पुनर्वास तथा जीवन की गुणवत्ता के साथ सह-संबद्धता समझने देने की दृष्टि से अध्यापन को अनुरूप और ऊर्ध्वाधर और अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए।

10.5.13 विकिरण निदान:

(क) **सक्षमताएं** : छात्र को निम्नलिखित प्रदर्शित करने चाहिए:

1. सामान्य नैदानिक प्रैक्टिस में विभिन्न विकिरण संबंधी जांचों के लिए संकेतों की समझबूझ।
2. विकिरण के दुष्प्रभावों और उपयोग में लाए जाने वाले विभिन्न विकिरण संरक्षात्मक उपायों की जागरूकता।
3. सामान्य विकिरण संबंधी जांचों में असामान्यताओं की पहचान करने की योग्यता।

(ख) **एकीकरण** : विकिरण इमेजिंग, शरीररचना-विज्ञान संबंधी सह-संबद्धता के मूलभूत सिद्धांतों और निदान तथा थेरेपी में उनके अनुप्रयोग को समझने के लिए ऊर्ध्वाधर और अनुप्रस्थ एकीकरण।

10.5.13ख विकिरण थेरेपी:

(क) **सक्षमताएं** : छात्र को निम्नलिखित प्रदर्शित करने चाहिए:

1. विभिन्न कैंसरों के नैदानिक प्रस्तुतीकरण।
2. विभिन्न प्रकार की संघातिक स्थितियों के लिए समुचित उपचार रूपात्मकताएं।
3. विकिरण थेरेपी के सिद्धांत और तकनीकें।

(ख) **एकीकरण** : विकिरण-चिकित्सीय प्रक्रियाओं के मूलभूत सिद्धांतों की मूल समझबूझ में समर्थ होने के लिए ऊर्ध्वाधर और अनुप्रस्थ एकीकरण।

10.5.14 संचेतनाहर-विज्ञान :

(क) **संचेतनाहर-विज्ञान में सक्षमताएं** : छात्र को निम्नलिखित प्रदर्शित करने चाहिए:

1. शल्यक्रिया-पूर्व मूल्यांकन का वर्णन करना और उस पर चर्चा करना, संचेतनाहर/सर्जरी के संबंध में सर्जरी के लिए फिटनेस और चिकित्सन में परिवर्तन का मूल्यांकन करना;
2. चिकित्सन-पूर्व, अंतःवाहिनिका इंट्रुवेशन, जनरल संचेतनाहर और रिकवरी (जिनमें संचेतनाहर और संचेतनाहर की जटिलताओं से रिकवरी में भिन्नताएं शामिल हैं) सहित एक पेरि-शल्यक्रिया चिकित्सक के रूप में संचेतनाहर-विज्ञानी की भूमिकाओं का वर्णन करना और उन पर चर्चा करना;
3. प्रसव पीड़ाशून्यता सहित निकट और चिरकालिक दर्द के संबंध का वर्णन करना और उस पर चर्चा करना;
4. विभिन्न स्थितियों में बच्चों और वयस्कों में वायु मार्ग के रखरखाव के बारे में जागरूकता प्रदर्शित करना;
5. आपातकालिक स्थितियों में और सघन चिकित्सा तथा अत्यधिक आश्रितता इकाइयों में हृदयीय-फुफुसीय पुनरुज्जीवन के संकेतों, रोगियों के चयन और निष्पादन के बारे में जागरूकता प्रदर्शित करना;
6. स्थानीय/क्षेत्रीय संचेतनाहर के लिए रोगी चुनना और इसे संचालित करने की योग्यता प्रदर्शित करना;
7. विभिन्न प्रक्रियाओं की विविज्ञा पर चर्चा करना और उनके लिए संसूचित सहमति प्राप्त करना और दस्तावेज़ रखना।

(ग) **एकीकरण** : दर्द वाले मरीजों में, सघन चिकित्सा में और हृदयीय श्वसनी आपातकालिक स्थितियों में विभिन्न सर्जरियां कराने वाले मरीजों के लिए व्यापक देखभाल उपलब्ध कराने की दृष्टि से अध्यापन को अनुकूल और ऊर्ध्वाधर तथा अनुप्रस्थ रूप से एकीकृत किया जाना चाहिए। शरीररचना-विज्ञान के नैदानिक-पूर्व विभाग, भेषज-विज्ञान के पैरा-नैदानिक विभाग के साथ एकीकरण और किसी अन्य सभी सर्जिकल विशेषज्ञताओं के साथ अनुप्रस्थ एकीकरण का प्रस्ताव किया जाता है।

10.6 तृतीय व्यावसायिक (भाग II)

10.6.1 जनरल मेडिसिन – 10.5.1 के अनुसार

10.6.2 जनरल सर्जरी– 10.5.2 के अनुसार

10.6.3 प्रसूति एवं स्त्रीरोग-विज्ञान – 10.5.3 के अनुसार

10.6.4 बाल रोग – 10.5.4 के अनुसार

10.6.5 विकलांग-विज्ञान – 10.5.5 के अनुसार

अध्याय VI

मूल्यांकन

11. मूल्यांकन:

11.1 व्यावसायिक परीक्षा में बैठने की पात्रता:

11.1.1 प्रशिक्षण के अनिवार्य घटकों में कार्य-निष्पादन का मूल्यांकन निम्नलिखित आधार पर किया जाएगा:

(क) उपस्थिति:

1. उपस्थिति की शर्तें, उस विषय में परीक्षा में बैठने की पात्रता के लिए सिद्धांत में 75 प्रतिशत और प्रयोगात्मक/नैदानिक में 80 प्रतिशत है। उन विषयों में, जो एक से अधिक चरणों में पढ़ाए जाते हैं, शिक्षार्थी की, उस विषय में शिक्षा के प्रत्येक चरण में सिद्धांत में 75 प्रतिशत और प्रयोगात्मक में 80 प्रतिशत उपस्थिति होनी चाहिए।
2. यदि किसी परीक्षा में एक से अधिक विषय हैं (अर्थात् जनरल सर्जरी और संबद्ध शाखाएं) तो अभ्यर्थी को, प्रत्येक विषय में 75 प्रतिशत उपस्थिति और प्रत्येक नैदानिक तैनाती में 80 प्रतिशत उपस्थिति होनी चाहिए।
3. ऐसे शिक्षार्थी, जिनकी वैकल्पिकों में कम से कम 75 प्रतिशत उपस्थिति नहीं है, तृतीय व्यावसायिक-भाग II परीक्षा के लिए पात्र नहीं होंगे।

(ख) आंतरिक मूल्यांकन : आंतरिक मूल्यांकन, दिन-प्रति दिन मूल्यांकन के आधार पर होगा। यह ऐसे भिन्न-भिन्न तरीकों से संबंधित होगा, जिस तरीके से शिक्षार्थी संगोष्ठी की तैयारी, नैदानिक मामला प्रस्तुतीकरण, चर्चा के लिए नैदानिक मामले तैयार करना, नैदानिक मामला अध्ययन/समस्या समाधान कार्य, समुदाय में स्वास्थ्य सुरक्षा के लिए परियोजना में भाग लेना, लघु अनुसंधान परियोजना में प्रयोगात्मक या कौशल करने में दक्षता, एक लिखित परीक्षा शामिल है।

1. पूरे पाठ्यक्रम के दौरान नियमित आवधिक परीक्षाएं आयोजित की जाएंगी। प्रत्येक नैदानिक-पूर्व/पैरा-नैदानिक विषय में कम से कम तीन आंतरिक मूल्यांकन होंगे और एक व्यावसायिक वर्ष में प्रत्येक नैदानिक विषय में कम से कम दो परीक्षाएं होंगी। तैनाती के अंत में, प्रत्येक व्यावसायिक वर्ष में प्रत्येक नैदानिक तैनाती के लिए नैदानिक मूल्यांकन किया जाएगा।
2. जब विषय, एक से अधिक चरण में पढ़ाए जाते हैं तो आंतरिक मूल्यांकन प्रत्येक चरण में किया जाना चाहिए और इसमें अंतिम मूल्यांकन के प्रति अनुपाततः योगदान होना चाहिए। उदाहरण के लिए जनरल मेडिसिन में मूल्यांकन, स्वतंत्र रूप से द्वितीय व्यावसायिक, तृतीय व्यावसायिक भाग I और तृतीय व्यावसायिक भाग II में स्वतंत्र रूप से किया जाना चाहिए।
3. आंतरिक मूल्यांकन में, दिन-प्रति दिन के रिकार्ड और लॉग बुक (अपेक्षित कौशल प्रमाणपत्र सहित) को महत्व दिया जाना चाहिए। आंतरिक मूल्यांकन, सक्षमताओं और कौशलों पर आधारित होना चाहिए।
4. किसी सामान्य नैदानिक विशेषज्ञता (अर्थात् सर्जरी और संबद्ध विशेषताएं आदि) में अंतिम आंतरिक मूल्यांकन में, सभी संघटक विशेषज्ञताओं से अंक होंगे। प्रत्येक संघटक विशेषज्ञता के लिए अंकों का अनुपात, प्रत्येक को आबंटित, शिक्षा के समय के हिसाब से निर्धारित किया जाएगा।
5. उस विषय की विश्वविद्यालय की अंतिम परीक्षा में बैठने का पात्र होने की दृष्टि से, शिक्षार्थी को, किसी विषय विशेष में आंतरिक मूल्यांकन के लिए निर्धारित कुल अंकों

(सिद्धांत और प्रयोगात्मक/नैदानिक में संयुक्त रूप से : सिद्धांत और प्रयोगात्मक में अलग-अलग कम से कम 40 प्रतिशत अंक) के कम से कम 50 प्रतिशत अंक प्राप्त करने चाहिए। आंतरिक मूल्यांकन के अंक, अंतिम परीक्षा में उत्तीर्ण होने के अलग शीर्ष के रूप में दर्शाए जाएंगे।

6. आंतरिक मूल्यांकन के परिणाम, परीक्षा के 1-2 सप्ताह के अंदर नोटिस बोर्ड पर प्रदर्शित किए जाने चाहिए। ऐसे छात्रों, जो या तो अर्हक अंक प्राप्त करने में समर्थ नहीं हैं या जिन्होंने किसी कारण से कुछ मूल्यांकन छोड़ दिए हैं, के लिए नीतियां बनाने के संबंध में विश्वविद्यालय, कॉलेजों का मार्गदर्शन करेगा।
7. उस विषय की विश्वविद्यालय की अंतिम परीक्षा में बैठने का पात्र बनने के लिए शिक्षार्थियों को, प्रशिक्षण के उस चरण के लिए अपेक्षित प्रमाणनयोग्य सक्षमताएं पूरी कर लेनी चाहिए और परीक्षण के उस चरण के लिए समुचित लॉग-बुक पूरी करनी चाहिए।

विश्वविद्यालय परीक्षाएं:

- 11.2.1 विश्वविद्यालय की परीक्षाओं का खाका, यह पता लगाने की दृष्टि से तैयार किया जाएगा कि क्या अभ्यर्थी ने, उन मौलिक सिद्धांतों का आवश्यक ज्ञान, कौशलों के न्यूनतम स्तर, स्पष्ट अवधारणा के साथ नैतिक और व्यावसायिक मूल्य प्राप्त कर लिए हैं, जो, प्रथम संपर्क के एक चिकित्सक के रूप में प्रभावी और समुचित ढंग से कार्य करने हेतु उसके लिए आवश्यक हैं। मूल्यांकन, जहां तक संभव हो, एक वस्तुपरक आधार पर किया जाएगा।
- 11.2.2 प्रश्नों के स्वरूप में, भिन्न-भिन्न प्रकार के प्रश्न शामिल होंगे जैसे संरचित निबंध (लंबे प्रश्न उत्तर – एलएक्यू), छोटे प्रश्न उत्तर (एसएक्यू) और वस्तुपरक प्रकार के प्रश्न (अर्थात बहु-विकल्प प्रश्न – एमसीक्यू)। प्रत्येक भाग के लिए अंक, अलग-अलग दर्शाए जाने चाहिए। एमसीक्यू को, सिद्धांत के कुल अंकों के 20 प्रतिशत से अधिक का भारांश नहीं दिया जाएगा। ऐसे विषयों में, जिनके दो पेपर हैं, शिक्षार्थी को उत्तीर्ण होने के लिए कुल मिलाकर न्यूनतम 50 प्रतिशत के साथ (मिला कर दो पेपरों में) प्रश्नपत्रों में से प्रत्येक में कम से कम 40 प्रतिशत अंक प्राप्त करने चाहिए।
- 11.2.3 प्रयोगात्मक/नैदानिक परीक्षाएं, प्रयोगशालाओं और/या अस्पताल के वार्डों में आयोजित की जाएंगी। इसका उद्देश्य, प्रयोग करने, आंकड़ों की व्याख्या करने और तर्कसंगत निष्कर्ष निकालने के लिए दक्षता और कौशलों का मूल्यांकन करना होगा। परीक्षा में रखे गए नैदानिक मामले, ऐसी सामान्य स्थितियां होनी चाहिए, जिनका सामना, समुदाय में प्रथम संपर्क के रूप में कोई चिकित्सक कर सकता है। परीक्षा के मामलों के रूप में विरल संलक्षणों और विकृतियों के चयन को हतोत्साहित किया जाना चाहिए। इतिवृत्त प्रकाश में लाने, शारीरिक लक्षण प्रदर्शित करने, रोगों का रिकार्ड लिखने, रोगी का विश्लेषण करने और एक प्रबंधन योजना तैयार करने की अभ्यर्थी की सक्षमता पर जोर दिया जाना चाहिए।
- 11.2.4 मौखिक/मुंहजबानी परीक्षा में, मरीज प्रबंधन, आपातकालिक स्थितियों, मनोवृत्ति, नैतिकता और व्यावसायिक मूल्यों के प्रति दृष्टिकोण का मूल्यांकन किया जाना चाहिए। सामान्य जांचों के आंकड़ों, एक्स-रेज की व्याख्या, नमूनों की पहचान, ईसीजी आदि में अभ्यर्थी के कौशल का भी मूल्यांकन किया जाना चाहिए।

- 11.2.5 एक शैक्षिक वर्ष में एक मुख्य परीक्षा होगी और अनुपूरक परीक्षा, मुख्य परीक्षा के परिणामों की घोषणा के पश्चात अधिक से अधिक 90 दिन के अंदर आयोजित की जाएगी।
- 11.2.6 कोई शिक्षार्थी, एमबीबीएस पाठ्यक्रम के प्रथम भाग में शामिल होने के 10 वर्ष पश्चात, स्नातक बनने का हकदार नहीं होगा।
- 11.2.7 विश्वविद्यालय परीक्षाएं, निम्नलिखित रूप से आयोजित की जाएंगी:

(क) प्रथम व्यावसायिक

1. प्रथम व्यावसायिक परीक्षा, मानव शरीररचना-विज्ञान, शरीरक्रिया-विज्ञान और जीवरसायन विषयों में, प्रथम व्यावसायिक प्रशिक्षण (1+12 महीने) के अंत में आयोजित की जाएगी।
2. प्रथम व्यावसायिक विश्वविद्यालय परीक्षा में उत्तीर्ण होने के लिए, अधिकतम चार अनुमत अवसर उपलब्ध होंगे जिसके द्वारा प्रथम व्यावसायिक पाठ्यक्रम में उक्त पाठ्यक्रम में दाखिले के 4 वर्ष के अंदर उत्तीर्ण होना होगा। विश्वविद्यालय की किसी परीक्षा में आंशिक उपस्थिति को, प्राप्त कर लिए अवसर के रूप में गिना जाएगा।

(ख) द्वितीय व्यावसायिक

1. द्वितीय व्यावसायिक परीक्षा, रोग-विज्ञान, सूक्ष्मजीव-विज्ञान और भेषज-विज्ञान विषयों में, द्वितीय व्यावसायिक प्रशिक्षण (11 महीने के) के अंत में आयोजित की जाएगी।

(ग) तृतीय व्यावसायिक

1. तृतीय व्यावसायिक भाग I परीक्षा, नेत्ररोग-विज्ञान, कान-नाक-गलारोग-विज्ञान, कम्प्युनिटी मेडिसिन और फोरेंसिक मेडिसिन एवं विष-विज्ञान विषयों में, प्रशिक्षण के तृतीय व्यावसायिक भाग I (12 महीने के) के अंत में आयोजित की जाएगी।
2. तृतीय व्यावसायिक भाग II - (अंतिम व्यावसायिक) परीक्षा, जनरल मेडिसिन, जनरल सर्जरी, प्रसूति एवं स्त्रीरोग-विज्ञान और बाल रोग विषयों में प्रशिक्षण (वैकल्पिक के महीने सहित 14 महीने के) के अंत में आयोजित की जाएगी। विकलांक-विज्ञान, संचेतनाहर-विज्ञान, दंत्य और विकिरण निदान की विधा में, जनरल सर्जरी के प्रश्नपत्र II में एक अलग भाग के रूप में शामिल किए गए सिद्धांत के कुल अंकों 25 प्रतिशत अंक शामिल होंगे।
3. मनश्चिकित्सा और त्वचारोग-विज्ञान, रतिजरोग-विज्ञान एवं कुष्ठरोग (डीवीएल), तपेदिक सहित श्वसनी मेडिसिन की विधा में, जनरल मेडिसिन के प्रश्नपत्र II में एक अलग भाग के रूप में शामिल किए गए जनरल मेडिसिन के सिद्धांत के कुल अंकों के 25 प्रतिशत अंक शामिल होंगे।

(घ) परीक्षा अनुसूची, सारणी I में दी गई है।

(ङ) अंक वितरण, सारणी 10 में दिया गया है।

सारणी 10 : विभिन्न विषयों के लिए अंक वितरण

पाठ्यक्रम का चयन	लिखित सिद्धांत जोड़	प्रयोगात्मक/ मौखिक नैदानिक	उत्तीर्ण होने का मापदंड
प्रथम व्यावसायिक			आंतरिक मूल्यांकन विश्वविद्यालय की परीक्षाओं में बैठने की पात्रता के लिए सिद्धांत और प्रयोगात्मक में संयुक्त रूप से 50 प्रतिशत (प्रत्येक में कम से कम 40 प्रतिशत) विश्वविद्यालय परीक्षाएं सिद्धांत और प्रयोगात्मक में अलग-अलग 50 प्रतिशत अंक अनिवार्य हैं (प्रयोगात्मक = प्रयोगात्मक/ नैदानिक +मौखिक)
मानव शरीररचना-विज्ञान- 2 पेपर	200	100	
शरीरक्रिया-विज्ञान-2 पेपर	200	100	
जीवरसायन – 2 पेपर	200	100	
द्वितीय व्यावसायिक			
भेषज-विज्ञान – 2 पेपर	200	100	
रोग-विज्ञान – 2 पेपर	200	100	
सूक्ष्मजीव-विज्ञान – 2 पेपर	200	100	
तृतीय व्यावसायिक भाग I			
फॉरेंसिक मेडिसिन एवं विष-विज्ञान – 1 पेपर	100	100	
नेत्ररोग-विज्ञान – 1 पेपर	100	100	
कान-नाक-गलारोग-विज्ञान – 1 पेपर	100	100	
कम्युनिटी मेडिसिन – 2 पेपर	200	100	
तृतीय व्यावसायिक भाग II			
जनरल मेडिसिन – 2 पेपर	200	200	
जनरल सर्जरी – 2 पेपर	200	200	
बालरोग – 1 पेपर	100	100	
प्रसूति एवं स्त्रीरोग-विज्ञान – 2 पेपर	200	200	

टिप्पणी : नैदानिक विशेषज्ञताओं के प्रत्येक प्रश्नपत्र में कम से कम एक प्रश्न में निम्नलिखित के ज्ञान की परीक्षा होनी चाहिए – व्यावसायिक विकास कार्यक्रम के दौरान प्राप्त की गई सक्षमताएं (एटकाँम मॉड्यूल); व्यावसायिक विकास कार्यक्रम के दौरान प्राप्त की गई कौशल सक्षमताओं (एटकाँम मॉड्यूल) की परीक्षा, नैदानिक, प्रयोगात्मक और मौखिक के दौरान की जानी चाहिए।

ऐसे विषयों में, जिनके दो पेपर हैं, शिक्षार्थी को उक्त विषय में उत्तीर्ण होने के लिए, कुल मिलाकर न्यूनतम 50 प्रतिशत अंक (दोनों पेपरों को मिलाकर) प्राप्त करने के साथ-साथ प्रत्येक पेपर में कम से कम 40 प्रतिशत अंक प्राप्त करने चाहिए।

11.2.8 किसी विषय में उत्तीर्ण होने का मापदंड : उस विषय में उत्तीर्ण के रूप में घोषित किए जाने की दृष्टि से, कोई अभ्यर्थी, विश्वविद्यालय द्वारा आयोजित परीक्षा में सिद्धांत और प्रयोगात्मक (प्रयोगात्मक में : प्रयोगात्मक/नैदानिक और मौखिक परीक्षा शामिल है) में अलग-अलग 50 प्रतिशत अंक प्राप्त करने चाहिए।

11.2.9 परीक्षकों की नियुक्ति

- (क) विषय विशेष में परीक्षक के रूप में नियुक्त किए गए व्यक्ति के पास, किसी मान्यताप्राप्त/अनुमोदित/अनुमतिप्राप्त मेडिकल कॉलेज के साथ संबद्ध किसी कॉलेज में उस विषय में स्नातकोत्तर डिग्री प्राप्त करने के पश्चात सहायक प्रोफेसर के रूप में कम से कम 4 वर्ष का अध्यापन अनुभव होना चाहिए।
- (ख) प्रयोगात्मक/नैदानिक परीक्षाओं के लिए, 100 शिक्षार्थियों के लिए कम से कम चार परीक्षक होंगे, जिनमें से कम से कम 50 प्रतिशत बाह्य परीक्षक होने चाहिए। चार परीक्षकों में से वरिष्ठतम बाह्य परीक्षक पूरे परीक्षा कार्यक्रम के अध्यक्ष और समन्वयक के रूप में कार्य करेगा ताकि अभ्यर्थियों के मूल्यांकन के मामले में एकरूपता रखी जा सके। जहां परीक्षा में बैठने वाले

अभ्यर्थी 100 से अधिक हैं, तो परीक्षा में बैठने वाले प्रत्येक अतिरिक्त 50 अभ्यर्थियों या उसके भाग के लिए दो अतिरिक्त परीक्षक (एक बाह्य और एक आंतरिक) नियुक्त किए जाएंगे।

- (ग) चिकित्सा अध्यापकों की अनुपलब्धता की स्थिति में, किसी मेडिकल डिग्री के बिना अनुमोदित अध्यापकों (किसी मान्यताप्राप्त मेडिकल कॉलेज में पूर्णकालिक अध्यापकों के रूप में एमबीबीएस छात्रों के अध्यापन में अभिनियोजित) को उनके संबंधित विषयों में परीक्षक नियुक्त किया जा सकता है, बशर्ते कि उनके पास अपेक्षित डॉक्ट्रेट शैक्षिक योग्यता और एमबीबीएस छात्रों का चार वर्ष का अध्यापन अनुभव (सहायक प्रोफेसर के रूप में) हो। पुनः बशर्ते कि परीक्षकों (आंतरिक और बाह्य) में से 50 प्रतिशत मेडिकल शैक्षिक योग्यता वाली स्त्रीम से हों।
- (घ) बाह्य परीक्षक उसी विश्वविद्यालय से नहीं भी हो सकते।
- (ङ) किसी विषय में आंतरिक परीक्षक किसी ऐसे कॉलेज के लिए बाह्य परीक्षकता स्वीकार नहीं करेगा, जिससे उसके विषय में बाह्य परीक्षक नियुक्त किया गया है।
- (च) जिस विश्वविद्यालय में एक से अधिक कॉलेज है, वह संबंधित कॉलेज से आंतरिक परीक्षकों वाले प्रत्येक कॉलेज के लिए परीक्षकों के अलग सेट रखेगा।
- (छ) बाह्य परीक्षक, दो वर्ष के अंतराल पर बारी-बारी से परीक्षक होंगे।
- (ज) पेपर सेटर बोर्ड का एक अध्यक्ष होगा, जो एक आंतरिक परीक्षक होगा और वह प्रश्नों को संतुलित करेगा।
- (झ) अपेक्षित शैक्षिक योग्यता और अनुभव वाले सभी पात्र परीक्षक, उनके विषयों में चक्रानुक्रम में आंतरिक परीक्षक नियुक्त किए जा सकते हैं।
- (ञ) सिद्धांत के सभी पेपरों का मूल्यांकन, संबंधित विश्वविद्यालय के केंद्रीय मूल्यांकन कार्यक्रम (सीएपी) के रूप में किया जाएगा।
- (ट) आंतरिक परीक्षक, उसी संस्थान में एकात्मक परीक्षा के लिए उसी संस्थान में नियुक्त किया जाना चाहिए। एक केंद्र में पूल की गई परीक्षाओं के लिए, उसी विश्वविद्यालय में अनुमोदित आंतरिक परीक्षक नियुक्त किए जा सकते हैं।
- (ठ) पूरी परीक्षा में उत्तीर्ण होने के लिए परंतु एक विषय में उत्तीर्ण होने के लिए नहीं, जिसके परिणामस्वरूप छूट प्राप्त हो जाए, किसी शिक्षार्थी को, विश्वविद्यालय के विवेकाधिकार पर अधिकतम पांच अंकों तक अनुग्रहांक दिए जा सकते हैं।

अध्याय VII

इंटर्नशिप

12. इंटर्नशिप

इंटर्नशिप, प्रशिक्षण का एक ऐसा चरण है, जिसमें कोई स्नातक, पर्यवेक्षण के अधीन चिकित्सा और स्वास्थ्य सुरक्षा की प्रैक्टिस के लिए कौशल और सक्षमताएं प्राप्त करेगा ताकि उसे एक भारतीय चिकित्सा स्नातक के रूप में स्वतंत्र मेडिकल प्रैक्टिस के लिए प्रमाणित किया जा सके। प्रशिक्षित कार्य बल उपलब्ध कराने की दृष्टि से इसे प्रशिक्षण का एक ऐसा चरण माना जा सकता है, जिसमें स्नातक से किसी प्रशिक्षित डाक्टर के पर्यवेक्षण में वास्तविक प्रैक्टिस करने की अपेक्षा की

जाती है। ज्ञानार्जन पद्धतियां और रूपात्मकताएं बड़ी संख्या में प्रयोगात्मक सत्र और अनुरूपकों पर प्रैक्टिस, एमबीबीएस पाठ्यक्रम के दौरान ही पूरी करनी होती हैं।

12.1 लक्ष्य

इंटरनशिप कार्यक्रम का लक्ष्य, समुदाय में प्रथम संपर्क के डॉक्टरों के रूप में उनकी भूमिकाएं पूरी करने के लिए मेडिकल छात्रों को प्रशिक्षित करना है।

12.2 उद्देश्य : इंटरनशिप अवधि के अंत में चिकित्सा स्नातक, किसी भारतीय चिकित्सा स्नातक की सभी अपेक्षित सक्षमताएं प्राप्त करेंगे, नामतः:

12.2.1 स्वतंत्र रूप से अनुकंपा के साथ निवारक, समर्थक, उपचारात्मक और प्रशामक देखभाल उपलब्ध कराना।

12.2.2 स्वास्थ्य सुरक्षा दल और स्वास्थ्य प्रणाली के अग्रणी और सदस्य के रूप में कार्य करना।

12.2.3 मरीजों, परिवारों, सहयोगियों और समुदाय के साथ प्रभावी ढंग से संसूचित करना।

12.2.4 स्नातक-पूर्व कार्यक्रम में पढ़ाई गई मेडिसिन की भिन्न-भिन्न विधाओं में नैदानिक और चिकित्सीय कौशलों में प्रमाणित होना।

12.2.5 कौशलों और ज्ञान के निरंतर सुधार के प्रति प्रतिबद्ध आजीवन तक शिक्षार्थी होना।

12.2.6 उत्कृष्टता के प्रति प्रतिबद्ध एक व्यवसायविद और मरीजों, समुदाय तथा व्यवसाय के प्रति नैतिकतापूर्ण, प्रत्युत्तरात्मक और जवाबदेह होना।

12.3 समय वितरण

कम्युनिटी मेडिसिन (आवासीय तैनाती)	2 महीने
मनश्चिकित्सा के 15 दिन सहित जनरल मेडिसिन	2 महीने
संचेतनाहर के 15 दिन सहित जनरल सर्जरी	2 महीने
परिवार कल्याण नियोजन सहित प्रसूति एवं स्त्रीरोग-विज्ञान	2 महीने
बाल रोग	1 महीना
पीएम एण्ड आर सहित विकलांक-विज्ञान	1 महीना
कान-नाक-गलारोग-विज्ञान	15 दिन
नेत्ररोग-विज्ञान	15 दिन
दुर्घटना	15 दिन
वैकल्पिक तैनाती (1X15 दिन)	15 दिन

वैकल्पिक तैनाती के विषय निम्नलिखित होंगे:

1. त्वचारोग-विज्ञान, रतिजरोग-विज्ञान एवं कुष्ठरोग
2. श्वसनी मेडिसिन
3. विकिरण निदान
4. फोरेंसिक मेडिसिन एवं विष-विज्ञान
5. रक्त बैंक
6. मनश्चिकित्सा

टिप्पणी : मूल्यांकन के साथ संरचना इंटरनशिप, कॉलेज में अंत में होगी।

12.4 अन्य ब्योरे :

- 12.4.1 इंटरनशिप के कोर रोटेशन, भारत में प्राथमिक और द्वितीयक/तृतीयक देखभाल संस्थानों में किए जाएंगे। किसी कठिनाई की स्थिति में मामला, अलग-अलग मेरिट पर विचार किए जाने के लिए भारतीय आयुर्विज्ञान परिषद को संदर्भित किया जा सकता है।
- 12.4.2 एमबीबीएस की अंतिम परीक्षा उत्तीर्ण करने के पश्चात प्रत्येक अभ्यर्थी के लिए, 12 महीने की अवधि के लिए संबंधित अभ्यर्थी के लिए, 12 महीने की अवधि के लिए संबंधित कॉलेज प्राधिकारियों और विश्वविद्यालय की संतुष्टि पर अनिवार्य रोटेशन इंटरनशिप करना आवश्यक होगा ताकि एमबीबीएस की डिग्री प्रदान किए जाने और पूर्ण पंजीकरण का पात्र हो सके।
- 12.4.3 अंतिम परीक्षा में उत्तीर्ण होने पर विश्वविद्यालय, एमबीबीएस परीक्षा में उत्तीर्ण होने का एक अनंतिम प्रमाणपत्र जारी करेगा।
- 12.4.4 एमबीबीएस परीक्षा उत्तीर्ण करने का अनंतिम प्रमाणपत्र प्रस्तुत करने पर, राज्य आयुर्विज्ञान परिषद, अभ्यर्थी को अनंतिम पंजीकरण प्रदान करेगा। यह अनंतिम पंजीकरण एक वर्ष की अवधि के लिए होगा। कम या असंतोषजनक कार्य की स्थिति में, अनंतिम पंजीकरण और अनिवार्य रोटेटिंग इंटरनशिप की अवधि, समुचित प्राधिकारियों द्वारा उपयुक्ततः बढ़ा दी जाएगी।
- 12.4.5 इंटरन को, किसी नामजद पर्यवेक्षण चिकित्सक के प्रत्यक्ष पर्यवेक्षण में नैदानिक जिम्मेदारियां सौंपी जाएंगी। वे स्वतंत्र रूप से कार्य नहीं करेंगे।
- 12.4.6 इंटरन अपने हस्ताक्षर से चिकित्सा प्रमाणपत्र या मृत्यु प्रमाणपत्र या अन्य चिकित्सीय-विधिक दस्तावेज जारी नहीं करेगा।
- 12.4.7 विविध ज्ञानार्जन अनुभव उपलब्ध कराने और राष्ट्रीय स्वास्थ्य कार्यक्रमों/ प्राथमिकताओं के कार्यान्वयन में सुविधा प्रदान करने की दृष्टि से प्रत्येक मेडिकल कॉलेज को यह सुनिश्चित करना चाहिए कि छात्र प्राथमिक/द्वितीयक और शहरी/ग्रामीण केंद्रों में ज्ञानार्जन अनुभव प्राप्त करे। इनमें सामुदायिक और बाहरी क्रियाकलाप, ग्रामीण और शहरी सामुदायिक स्वास्थ्य केंद्रों के साथ सहयोग और सरकारी स्वास्थ्य मिशनों आदि में सहभागिता शामिल होंगे।
- 12.4.8 एमबीबीएस की अंतिम परीक्षा में उत्तीर्ण होने के पश्चात सशस्त्र बल चिकित्सा सेवाओं में एक वर्ष की अनुमोदित सेवा को ऊपर वर्णित पुनः पंजीकरण प्रशिक्षण के समतुल्य माना जाएगा। जहां तक संभव हो, ऐसा प्रशिक्षण बेस/जनरल अस्पताल में होगा। कम्युनिटी मेडिसिन में प्रशिक्षण में, ऊपर यथाप्रस्तावित भारतीय आयुर्विज्ञान परिषद के मापदंड पूरे किए जाने चाहिए।
- 12.4.9 व्यावहारिक अनुभव, मरीज की देखभाल के लिए पूरी जिम्मेदारी और कौशल अर्जन का महत्व स्वीकार करते हुए अध्यापन अस्पताल के अलावा जिला अस्पताल, तालुका अस्पताल, सामुदायिक स्वास्थ्य केंद्र और प्राथमिक स्वास्थ्य केंद्र में उपलब्ध नैदानिक सुविधाओं का प्रयोग करने के लिए इंटरनशिप का कार्यक्रम धीरे-धीरे बढ़ाया जाना चाहिए। इंटरनशिप का महत्वपूर्ण घटक, प्रमुख क्षेत्रों में सूचीबद्ध विशिष्ट अनुभवों और कौशल का अर्जन होगा; बशर्ते कि जहां कोई इंटरन प्रशिक्षण के लिए जिला/उप मंडलीय अस्पताल में तैनात किया जाता है, वहां एक समिति होगी, जिसमें कॉलेज/विश्वविद्यालय, राज्य सरकार और जिला प्रशासन के प्रतिनिधि शामिल होंगे, जो ऐसे प्रशिक्षणार्थी का प्रशिक्षण विनियमित करेगी; पुनः बशर्ते कि ऐसे प्रशिक्षणार्थी

के लिए संबंधित प्रशासनिक प्राधिकारियों से प्रशिक्षण संतोषजनक ढंग से पूरा करने का प्रमाणपत्र प्राप्त किया जाएगा, जिस पर कॉलेज के प्रधानाचार्य/डीन द्वारा प्रतिहस्ताक्षर किए जाएंगे।

12.5 इंटरनशिप का मूल्यांकन :

- 12.5.1 इंटरन, एक लॉग-बुक में कार्य का रिकार्ड रखेगा, जिसे उस चिकित्सा अधिकारी द्वारा सत्यापित और प्रमाणित किया जाएगा, जिसके अधीन वह कार्य करता/करती है। कार्य के रिकार्ड की संवीक्षा के अलावा प्रशिक्षण का मूल्यांकन, प्रशिक्षण के दौरान और अंत में ज्ञान, कौशल और मनोवृत्ति में स्थैतिक परीक्षाओं का इस्तेमाल करके एक वस्तुपरक दृष्टिकोण द्वारा किया जाएगा।
- 12.5.2 प्रत्येक तैनाती के अंत में कार्य के रिकार्ड और वस्तुपरक मूल्यांकन के आधार पर डीन/प्रधानाचार्य, इंटरनशिप के अंत में प्रशिक्षण के संतोषजनक ढंग पूरा कर लेने का संचयी प्रमाणपत्र जारी करेगा, जिसके पश्चात विश्वविद्यालय एमबीबीएस की डिग्री प्रदान करेगा या उसे इसके लिए पात्र घोषित करेगा।
- 12.5.3 विश्वविद्यालय द्वारा एमबीबीएस की डिग्री प्रदान किए जाने पर या यह घोषित किए जाने पर कि वह अभ्यर्थी इसके लिए पात्र है, भारतीय आयुर्विज्ञान परिषद/राज्य आयुर्विज्ञान परिषद द्वारा पूर्ण पंजीकरण दिया जाएगा।
- 12.5.4 प्रशिक्षण कार्यक्रम के कार्यान्वयन के लिए कुछ दिशानिर्देश नीचे दिए गए हैं:

12.6 इंटरनशिप – विद्या संबंधी :

12.6.1 कम्युनिटी मेडिसिन

लक्ष्य :

कम्युनिटी मेडिसिन में स्नातक-पूर्व छात्रों को अध्यापन का उद्देश्य, ऐसा ज्ञान और कौशल प्रदान करना है जो उन्हें सामान्य मेडिकल बीमारियों का निदान और उपचार करने तथा सामुदायिक सहभागिता का महत्व समझने में समर्थ बना सके। वे प्राथमिक स्वास्थ्य देखभाल के संदर्भ में किसी व्यक्ति और समुदाय के साथ प्रभावी ढंग से डील करने में सक्षमता प्राप्त करेंगे। यह लक्ष्य, जिला अस्पताल और प्राथमिक स्वास्थ्य केंद्र में व्यावहारिक अनुभव द्वारा प्राप्त किया जाएगा। इसके ब्योरे निम्नलिखित हैं:

1) जिला अस्पताल/सामुदायिक स्वास्थ्य केंद्र/जनरल प्रैक्टिशनर का अटैचमेंट:

क. किसी इंटरन को, सहायता के बिना निम्नलिखित करने में समर्थ होना चाहिए:

1. किसी इंटरन को:
 - क) सामान्य रोगों का निदान करने और प्राथमिक देखभाल की सलाह देने में समर्थ होना चाहिए;
 - ख) "आवश्यक औषधियों" और उनके इस्तेमाल पर ज्ञान प्रदर्शित करना;
 - ग) चिकित्सीय आपातकालिक स्थितियों का पता लगाना, आरंभिक उपचार पुनर्जीवित और स्थापित करना और किसी उपयुक्त संस्थान को रेफर करना।
2. किसी इंटरन को, स्वास्थ्य एवं परिवार कल्याण मंत्रालय द्वारा यथासंस्तुत सभी राष्ट्रीय स्वास्थ्य कार्यक्रमों (अर्थात् आरसीएच, यूआईपी, सीडीडी, एआरआई, एफपी, एएनसी, तपेदिक, कुष्ठरोग और अन्य) से परिचित होना चाहिए।

3. किसी इंटर्न को:

- क) संक्रामक रोगों के प्रति प्रतिरक्षण में पूर्ण विशेषज्ञता प्राप्त करनी चाहिए।
- ख) पौषणिक विकृतियों सहित स्थानीय रूप से प्रचलित महामारी रोगों की रोकथाम और नियंत्रण से संबंधित कार्यक्रमों में भाग लेना चाहिए;
- ग) परिवार कल्याण प्रक्रियाओं में कौशल सीखने चाहिए।

4. किसी इंटर्न को:

- क) स्वास्थ्य शिक्षा पर कार्यक्रम आयोजित करने चाहिए;
- ख) श्रव्य-दृश्य उपकरण इस्तेमाल करने की क्षमताएं प्राप्त करनी चाहिए;
- ग) सामुदायिक स्वास्थ्य को बढ़ावा देने के लिए वैज्ञानिक सूचना के उपयोग की क्षमता प्राप्त करनी चाहिए।

ख. किसी इंटर्न को निम्नलिखित का अवलोकन करने वाला या बरीयतः उनमें सहायता करने वाला होना चाहिए:

1. किसी इंटर्न को, जलापूर्ति, खाद्य वितरण और अन्य पर्यावरणीय/सामाजिक एजेंसियों जैसी अन्य एजेंसियों के साथ संबंध स्थापित करने में सक्षम होना चाहिए।
2. किसी इंटर्न को, पैरा-मेडिकल स्टाफ और स्वास्थ्य व्यवसायविदों के क्रियाकलापों की मॉनीटरिंग और ड्यूटियों के प्रत्यायोजन सहित प्रबंधकीय कौशल प्राप्त करने चाहिए।

II) तालुका अस्पताल/प्रथमोपचार इकाई:**क. किसी इंटर्न को बिना सहायता के निम्नलिखित में समर्थ होना चाहिए:**

1. कोई इंटर्न, निम्नलिखित पर किसी व्यक्ति/समुदाय को स्वास्थ्य शिक्षा प्रदान करेगा:
 - क) तपेदिक
 - ख) लघु परिवार, जन्म में अंतर रखना, समुचित गर्भनिरोधक का इस्तेमाल।
 - ग) माताओं और बच्चों का अनुप्रयुक्त पोषाहार और देखभाल।
 - घ) प्रतिरक्षण।

ख. किसी इंटर्न को पर्यवेक्षण के साथ निम्नलिखित करने में समर्थ होना चाहिए:

कोई इंटर्न, चिकित्सा अधिकारी के साथ कम से कम एक स्कूली स्वास्थ्य कार्यक्रम में भाग लेगा।

III) प्राथमिक स्वास्थ्य केंद्र/शहरी स्वास्थ्य केंद्र:**क. किसी इंटर्न को बिना सहायता के निम्नलिखित में समर्थ होना चाहिए:**

- क) मिश्रित परिवार स्वास्थ्य देखभाल (जन्म से लेकर मृत्यु तक), कार्यक्रमों की सूची बनाने में भाग लेना।
- ख) सामुदायिक स्वास्थ्य अर्थात् मातृत्व, पोषाहार, निगरानी और स्वास्थ्य लाभ, अतिसार विकृतियों आदि के लिए फील्ड प्रैक्टिस पर मॉड्यूल के इस्तेमाल में भाग लेना।
- ग) प्रतिरक्षण और शीत श्रृंखला में भाग लेना और उनसे संबंधित दस्तावेज रखना।
- घ) सामान्य बीमारियों जैसे मलेरिया, तपेदिक, आन्त्र ज्वर, रक्त संकुलता हृदयाघात, यकृत-शोथ, तानिका-शोथ, अतिपाती वृक्कीय ह्रास आदि के निदान और प्रबंधन में सक्षमता प्राप्त करना।

ख. कोई इंटरन, पर्यवेक्षण के अधीन निम्नलिखित करने में समर्थ होना चाहिए:

- क) परिवार कल्याण कार्यक्रमों (प्रसव-पूर्व देखभाल, सामान्य प्रसव, गर्भधारण आदि) में दक्षता प्राप्त करना।
- ख) ग्राम स्वास्थ्य केंद्रों, आशा उप केंद्रों में अनुभव के साथ-साथ सामुदायिक स्वास्थ्य के मुद्दे समझने के लिए कम से कम एक सप्ताह की अवधि का ग्राम अटैचमेंट का अनुभव प्राप्त करना।
- ग) चिकित्सा अधिकारी के साथ संक्रामक रोग निगरानी और महामारी प्रबंधन क्रियाकलापों में भाग लेना।

12.6.2 जनरल मेडिसिन**लक्ष्य :**

स्नातक-पूर्व छात्र को जनरल मेडिसिन में अध्यापन का उद्देश्य, ऐसा ज्ञान और कौशल प्रदान करना है, जो उसे सामान्य चिकित्सीय रोगों का निदान और उपचार करने में समर्थ बना सके। वह, इतिवृत्त, शारीरिक परीक्षण और सुसंगत प्रयोगशाला जांचों के आधार पर नैदानिक निदान में सक्षमता प्राप्त करेगा और समुचित प्रबंधन पद्धति आरंभ करेगा/ करेगी। इसमें ऊष्णकटिबंधों में सामान्य रोग

(निर्जलन और विद्युत अपघट्य अस्तव्यस्तता सहित परजीवी, जीवाणु या वायरल संक्रमण, पोषाहार विकृतियां) शामिल होंगे।

क. कोई इंटरन, बिना सहायता के निम्नलिखित करने और निम्नलिखित के परिणामों की व्याख्या करने में समर्थ होना चाहिए:

- i. निम्नलिखित प्रयोगशाला जांचें:
 - क) रक्त : (नैत्यक रुधिर-विज्ञान मैल और रक्त समूह),
 - ख) मूत्र: (नैत्यक रासायनिक और सूक्ष्मदर्शी परीक्षण),
 - ग) मल (अण्डाशय/कृमिकोष और प्रच्छादित रक्त),
 - घ) ग्रैम धब्बे या अम्ल-स्थायी धब्बे के लिए कफ और श्वासनली फुरेरी,
 - ङ) मैल के लिए सेरेब्रोस्पाइनल फ्लुइड (सीएसएफ),
 - च) इलेक्ट्रोकार्डियोग्राम (ईसीजी),
 - छ) ब्लड शुगर रिकार्ड करने के लिए ग्लूकोमीटर,
 - ज) वक्ष, उदर, खोपड़ी आदि का नैत्यक रेडियाग्राफ।
- ii. स्वतंत्र रूप से निम्नलिखित करना:
 - क) नैदानिक प्रक्रियाएं:
 - प्रोक्टोस्कोपी
 - ऑफथैल्मोस्कोपी/ओटोस्कोपी
 - अप्रत्यक्ष लारिंगोस्कोपी
 - ख) चिकित्सीय प्रक्रियाएं:

मूत्र मार्ग विरेचक लगाना
 राइल्स ट्यूब डालना
 फुफ्फुसावरणीय तापसिक फ्लुइड प्रश्वास
 वायुमार्ग ट्यूब संस्थापन
 ऑक्सीजन देना आदि

ख. किसी इंटर्न को निम्नलिखित शल्यक्रियाओं/ प्रक्रियाओं का अवलोकन या वरीयत- सहायता किया हुआ होना चाहिए:

क) **बाँयप्सी प्रक्रियाएं :** यकृत, गुर्दों, त्वचा, स्नायु, लसीका ग्रंथि और मांसपेशी बाँयप्सी बोन मेरो चूषण, सतह पर असाध्य घावों की बाँयप्सी, पर्यवेक्षण के अधीन कुष्ठरोग के लिए नासीय/स्नायु/त्वचा मैल।

ग. ऐसे कौशल, जिन्हें इंटर्न को पर्यवेक्षण के अधीन करने में समर्थ होना चाहिए:

- क) किसी इंटर्न को, चूषित्र, स्वसित्र और डिफाइब्रिलेटर, हृदयी मॉनीटर, रक्त गैस विश्लेषक के इस्तेमाल सहित प्राणरक्षक प्रक्रियाओं से परिचित होना चाहिए।
- ख) किसी इंटर्न को, वायरल ज्वर, जठर-शोथ, यकृत-शोथ, फुफ्फुस-प्रदाह, हेशी-हृदयीय संक्रमण और कण्ठशूल, टीआईए और घात, दौरा, मधुमेह मेलाइट्स, उच्च रक्त चाप, वृक्कीय यकृतीय क्षय, अवटुग्रंथि विकृतियों और रुधिर विकृतियों जैसे तीव्र और चिरकालिक रोगों के प्रबंधन तथा पूर्वानुमान के बारे में सलाह देने में समर्थ होना चाहिए। उसे गैर-संक्रमणीय रोगों और तपेदिक, एचआईवी मरीजों आदि के लिए काउंसलिंग सत्रों में भाग लेना चाहिए।
- ग) इंटर्न को मृत्यु की पुष्टि और मृत्यु की रिपोर्टिंग के विश्व स्वास्थ्य संगठन के कारण और आंकड़ा गुणवत्ता शर्तों की समझबूझ प्रदर्शित करने में समर्थ होना चाहिए।
- घ) इंटर्न को, स्थानीय और राष्ट्रीय महामारी प्रबंधन योजनाओं के साथ समन्वय की समझबूझ प्रदर्शित करने में समर्थ होना चाहिए।
- ङ) इंटर्न को, प्रेसक्राइबिंग कौशल प्रदर्शित करने और भेषज सतर्कता की जागरूकता, ऐन्टिबायोटिक नीति, प्रेसक्रिप्शन अंकेक्षण और अनिवार्य औषधियों की सूची की अवधारणा प्रदर्शित करने में समर्थ होना चाहिए।

12.6.3 बालरोग:

लक्ष्य :

स्नातक-पूर्व छात्र को बालरोग अध्यापन का उद्देश्य, ऐसा ज्ञान और कौशल प्रदान करना है जो उसे नवप्रसव विकृतियों सहित बाल्यकाल के सामान्य रोगों का निदान और उपचार करने में समर्थ बन सके। वह, इतिवृत्त, शारीरिक परीक्षण और सुसंगत प्रयोगशाला जांचों के आधार पर नैदानिक निदान में सक्षमता प्राप्त करेगा और समुचित प्रबंधन पद्धति आरंभ करेगा। इसमें ऊष्णकटिबंधों में सामान्य रोग (निर्जलन और विद्युत अपघट्य अस्तव्यस्तता सहित परजीवी, जीवाणु या वायरल संक्रमण, पोषाहार विकृतियां) शामिल होंगे।

क. कोई इंटर्न बिना सहायता के निम्नलिखित करने में समर्थ होना चाहिए:

कोई इंटर्न, सूचना का रिकार्ड तैयार करते हुए नव-प्रसव विकृतियों और तीव्र आपातकालिक स्थितियों, बीमार बच्चे की जांच करने सहित सामान्य बाल्यकाल विकृतियों का निदान और प्रबंधन करने में समर्थ होना चाहिए।

कोई इंटर्न निम्नलिखित करेगा:

- क) **नैदानिक तकनीकें** : रक्त संग्रहण (ऊरु शिरा और नाभि-रज्जु से सहित), फोड़े का अपवहन, सेरेब्रोस्पाइनल, फुफ्फुसवरण और उरावरण फ्लुइड का संग्रहण, मूत्र का ऊपरि जघन चूषण।
- ख) **मरीज देखभाल से संबंधित तकनीकें** : प्रतिरक्षण, छिड़काव तकनीकें, नासिका जठरीय ट्यूब निवेशन, सम्भरण प्रक्रियाएं, क्षयरोग परीक्षण और स्तनपान परामर्श।
- ग) **उपकरणों का इस्तेमाल** : सघन चिकित्सा प्राप्त करने वाले बच्चों की अत्यावश्यक मॉनीटरिंग, तापमान मॉनीटरिंग, जन्म पर पुनरुज्जीवन और देखभाल।
- घ) बाल खुराक और मौखिक पुनर्जलयोजन थेरेपी के विशेष संदर्भ में सामान्य बाल्यकाल विकृतियों का प्रारंभिक प्रबंधन करना।

ख. इंटर्न निम्नलिखित शल्यक्रियाओं/प्रक्रियाओं में अवलोकन किया हुआ या वरीयतः सहायता प्रदान किया हुआ होना चाहिए:

- क) नवजात शिशुओं और किन्हीं असामान्यताओं के जोखिम वाले शिशुओं की स्क्रीनिंग और भविष्य में रोकथाम, जन्मजात असामान्यताओं का पता लगाने के उपाय;
- ख) प्रगति असामान्यताओं का पता लगाना, मनोनीति विकास की असामान्यताओं का पता लगाना;
- ग) शिशुओं और बच्चों की पोषणिक और खुराक संबंधी स्थिति का मूल्यांकन करना और व्यक्तिगत तथा सामुदायिक दोनों स्तर पर कमी संबंधी विकृतियों की रोकथाम, पता लगाने और अनुवर्तन की व्यवस्था करना, जैसे:
 - प्रोटीन-ऊर्जा कुपोषण;
 - विटामिनों की कमियां, विशेष रूप से ए, बी, सी और डी की कमियां;
 - लौह की कमी।

ग. ऐसे कौशल जिन्हें कोई इंटर्न पर्यवेक्षण के अधीन करने में समर्थ होना चाहिए:

- क) कोई इंटर्न चूषित्र, स्वसित्र, हृदयीय मॉनीटर, रक्त गैस विश्लेषक के इस्तेमाल सहित, जीवन रक्षक प्रक्रियाओं से परिचित होना चाहिए।
- ख) किसी इंटर्न को, वायरल ज्वर, जठर-शोथ, यकृत-शोथ, फुफ्फुस-प्रदाह, हेशी-हृदयीय संक्रमण और कण्ठशूल, टीआईए और घात, दौरा, मधुमेह मेलाइट्स, उच्च रक्त चाप, वृक्कीय यकृतीय क्षय, अवटुग्रंथि विकृतियों और रुधिर विकृतियों जैसे तीव्र और चिरकालिक रोगों के प्रबंधन तथा पूर्वानुमान के बारे में सलाह देने में समर्थ होना चाहिए। उसे मरीजों के साथ एचआईवी परामर्श सहित परामर्श सत्रों में भाग लेना चाहिए।

12.6.4 जनरल सर्जरी:**लक्ष्य :**

स्नातक-पूर्व छात्र को जनरल सर्जरी में अध्यापन का उद्देश्य, ऐसा ज्ञान और कौशल प्रदान करना है जो सामान्य सर्जिकल बीमारियों का निदान और उपचार करने में उसे समर्थ बना सके। उसमें, सभी तीव्र और चिरकालिक सर्जिकल बीमारियों का निदान करने और तर्कसंगत परिशुद्धता के साथ समझने की योग्यता होनी चाहिए।

(क) चिकित्सीय – किसी इंटरन को निम्नलिखित करने या उसमें सहायता करनी चाहिए:

- क) शिराशल्यचिकित्सा या शिरीय पहुंच
- ख) श्वासनलीच्छेदन और अंतःश्वासनली इंटरवेशन।
- ग) तीव्र अवधारण या ट्रोकारसिस्टोस्टोमी के मरीजों को नान शलाका लगाना।
- घ) ऊपरि फोड़ों का अपवहन।
- ङ) घावों की मौलिक सीवन और घान प्रबंधन (पट्टी बांधने सहित)।
- च) सतही अबुर्दों (ट्यूमर्स) की बाँयप्सी।
- छ) वेसेक्टॉमी करना।

(ख) ऐसा कौशल जिसे किसी इंटरन को पर्यवेक्षण के अधीन करने में समर्थ होना चाहिए:

- क) तीव्र और चिरकालिक सर्जिकल बीमारियों, सिर की चोट, अभिघात, जलने और कैंसर के पूर्वानुमान के बारे में सलाह देना। इसके संबंध में मरीजों को परामर्श देना।
- ख) शल्यचिकित्सा के पश्चात मरीज के स्वास्थ्य लाभ के बारे में सलाह देना और शीघ्र स्वास्थ्य लाभ के लिए उसकी सहायता करना।
- ग) इंटरन को, विश्व स्वास्थ्य संगठन की मृत्यु रिपोर्टिंग और आंकड़ा गुणवत्ता शर्तों की समझबूझ प्रदर्शित करने में समर्थ होना चाहिए।
- घ) इंटरन को, मृत्यु सांख्यिकी के राष्ट्रीय और उप-राष्ट्रीय कारणों के इस्तेमाल की समझबूझ प्रदर्शित करने में समर्थ होना चाहिए।

(ग) किसी इंटरन को निम्नलिखित शल्यक्रियाओं/ प्रक्रियाओं का अवलोकन किया हुआ या बरीयतः सहायता प्रदान किया हुआ होना चाहिए:

- क) संकटकालीन मरीजों का पुनरुज्जीवन।
- ख) बड़ी और लघु सर्जिकल बीमारियों के लिए मौलिक सर्जिकल प्रक्रियाएं।
- ग) घाव पर पट्टी बांधना और खपाचियों का अनुप्रयोग।
- घ) लैप्रोस्कोपिक/न्यूनतम आक्रमक सर्जरी।
- ङ) लसीका नोड बाँयप्सी।

12.6.5 कैजुअल्टी:**लक्ष्य :**

स्नातक-पूर्व छात्र को कैजुअल्टी में अध्यापन का उद्देश्य, ऐसा ज्ञान और कौशल प्रदान करना है, जो उसे सामान्य तीव्र सर्जिकल/चिकित्सीय बीमारियों के निदान और उपचार में समर्थ बना सके। उसके पास आपातकालिक स्थितियों सहित तीव्र सर्जिकल बीमारियों को तर्कसंगत परिशुद्धता के साथ निदान करने और समझने, गंभीर रूप से चोटग्रस्त मरीज और गंभीर रूप से जले मरीज को पुनरुज्जीवित करने, सतही रक्तस्राव को नियंत्रित करने और खुले घावों का प्रबंधन करने तथा सिर, रीढ़ की हड्डी, वक्ष, उदर और श्रोणीय चोट तथा तीव्र उदर के मरीजों का प्रथम पंक्ति का प्रबंधन करने की योग्यता होनी चाहिए।

(क) चिकित्सीय – किसी इंटर्न को निम्नलिखित करना चाहिए या उसमें सहायता करनी चाहिए:

- क) चिकित्सीय पद्धति की विभिन्न विधाओं में तीव्र आपातकालिक स्थितियों की पहचान।
- ख) तीव्र ऐनाफाइलेटिक घात का प्रबंधन।
- ग) परीधीय-संवहनी क्षय और आघात का प्रबंधन।
- घ) तीव्र फुफ्फुसीय इंटेमा और बायीं निलयी क्षय (एलबीएफ) का प्रबंधन।
- ङ) डूबने, विष देने और दौरा पड़ने का आपातकालिक प्रबंधन।
- च) श्वसनी दमे और स्थैतिक दमे की स्थिति का आपातकालिक प्रबंधन।
- छ) अति ज्वर का आपातकालिक प्रबंधन।
- ज) वायु मार्गों, विष देने, श्वासों की रोकथाम और चोटों के संबंध में सम्मूर्छित मरीजों का आपातकालिक प्रबंधन।
- झ) जलने के छालों का मूल्यांकन और आपातकालिक प्रबंधन करना।
- ञ) अभिघात के विभिन्न पीड़ितों का मूल्यांकन करना और आपातकालिक प्रबंधन लागू करना।
- ट) चिकित्सीय-विधिक रोगियों की पहचान करना और फार्म भरना सीखना तथा चोट लगने, विष देने, यौन अपराधों, नशे तथा अन्य अप्राकृतिक स्थितियों के मामलों में चिकित्सीय-विधिक औपचारिकताएं पूरी करना।

(ख) ऐसा कौशल जिसे किसी इंटर्न को पर्यवेक्षण के अधीन करने में समर्थ होना चाहिए:

- क) तीव्र सर्जिकल बीमारियों, सिर की चोट, अभिघात और जलने के छालों के पूर्वानुमान के बारे में सलाह देना, इसके संबंध में मरीजों को परामर्श देना।

(ग) किसी इंटर्न को निम्नलिखित शल्यक्रियाओं/प्रक्रियाओं का अवलोकन किया हुआ या बरीयतः सहायता प्रदान किया हुआ होना चाहिए:

- क) गंभीर मरीजों का पुनरुज्जीवन।
- ख) चिकित्सीय विधिक रोगियों का दस्तावेजीकरण।
- ग) रक्तस्राव का प्रबंधन और खपाचियों का अनुप्रयोग।

12.6.6 प्रसूति एवं स्त्रीरोग-विज्ञान**लक्ष्य :**

स्नातक-पूर्व छात्र को प्रसूति एवं स्त्रीरोग-विज्ञान में अध्यापन का उद्देश्य, ऐसा ज्ञान और कौशल प्रदान करना है, जो उसे प्रसव-पूर्व और प्रसवोत्तर अनुवर्तन का निदान और प्रबंधन करने, प्रसव पीडा का प्रबंधन करने और इंटरपार्टन आपातकालिक स्थितियों का पता लगाने, सामान्य स्त्रीरोग-विज्ञान संबंधी बीमारियों का निदान और उपचार करने में समर्थ बना सके।

(क) चिकित्सीय – किसी इंटर्न को निम्नलिखित करना चाहिए या उसमें सहायता करनी चाहिए:

- क) प्रारंभिक गर्भावस्था का निदान और प्रसव-पूर्व देखभाल की व्यवस्था; प्रसव-पूर्व श्रोणीय मूल्यांकन शिरस्थ श्रोणीय असंगति का पता लगाना;
- ख) निम्नलिखित से संबंधित गर्भावस्था के रोग-विज्ञान का निदान:
- गर्भपात
 - बहि-प्रद्रव्य गर्भावस्था
 - ट्यूमर्स की जोखिम वाली गर्भावस्था
 - आरंभिक गर्भावस्था में तीव्र उदर
 - हाइपरइमेसिस ग्रविडम
- ग) उच्च जोखिम गर्भावस्था वाले रोगियों का पता लगाना और उपयुक्त सलाह देना अर्थात् पीआईएच, जलरंचन, प्रसव-पूर्व रक्तस्राव, बहुल गर्भावस्थाएं, असामान्य प्रदर्शन और अंतःमूत्र वृद्धि मंदन;
- घ) प्रसव पीड़ा आरंभ होना और पर्यवेक्षण के अधीन स्मृति-लोप;
- ङ) सामान्य प्रसव पीड़ा का प्रबंधन, असामान्यताओं, प्रसवोत्तर रक्तस्राव का पता लगाना और चिरस्थायी विदारणों की मरम्मत;
- च) चिमटी वाले प्रसव में सहायता;
- छ) स्तनपान की असामान्यताओं का पता लगाना और प्रबंधन;
- ज) परामर्श के साथ मौखिक गर्भनिरोधकों का मूल्यांकन और प्रैसक्रिप्शन;
- झ) भग, योनि, गर्भाशय और अण्डाशय की सामान्य जन्मजात प्रदाहक, नव-प्लास्टिक और अभिघातन स्थितियों का पता लगाने के लिए प्रति वीक्षण, प्रति योनि और प्रति मलाशयी परीक्षण;

(ख) ऐसा कौशल जिसे किसी इंटरन को पर्यवेक्षण के अधीन करने में समर्थ होना चाहिए:

- क) विस्फारण और क्यूरेटेज तथा प्रभाजक क्यूरेटेज;
- ख) अंतःमापीय बॉयप्सी;
- ग) अंतःमापीय प्रश्वास;
- घ) लेई मैल संग्रहण;
- ङ) अंतःगर्भाशय गर्भनिरोधक यंत्र (आईयूसीडी) सन्निवेशन;
- च) मिनीलैप बांधना;
- छ) मूत्रमार्गीय बाल शलाका लगाना;
- ज) शल्यक्रिया पश्चात रोगियों में सीवन हटाना;
- झ) ग्रीवा पंच बॉयप्सी।

(ग) किसी इंटरन को निम्नलिखित शल्यक्रियाओं/ प्रक्रियाओं का अवलोकन किया हुआ या बरीयतः सहायता किया हुआ होना चाहिए:

- क) मुख्य उदरीय और योनिक सर्जरी वाले रोगी;
- ख) द्वितीय त्रैमासिक गर्भावस्था का चिकित्सीय परिसमापन (एमटीपी) प्रक्रियाएं अर्थात् इमेरेडिल प्रॉसटैगलैंडिन टचकाना, सीजेरियन कटाई।

12.6.7 कान-नाक-गलारोग-विज्ञान (ईएनटी):

लक्ष्य :

स्नातक-पूर्व छात्र को कान-नाक-गलारोग-विज्ञान में अध्यापन का उद्देश्य ऐसा ज्ञान और कौशल प्रदान करना है, जिससे वह सिर और गर्दन की आपातकालिक स्थितियों और असाध्य अर्बदों सहित कान-नाक और गले (ईएनटी) के सामान्य रोगों के व्यापक निदान के लिए योग्यता प्राप्त करने और कान दर्द, विजातीय तत्व जैसी कान-नाक-गलारोग-विज्ञान की सामान्य स्थितियों के निदान और उपचार कर सके।

(क) चिकित्सीय – किसी इंटरन को निम्नलिखित करना चाहिए या उसमें सहायता करनी चाहिए:

- क) कान में पिचकारी मारना, कोटर छेदन और एसिस्टैक्सिस के लिए नाक की पैकिंग;
- ख) नाक की ड्रिपिंग और बाह्य नाल की पैकिंग;
- ग) नाक और कान से विजातीय तत्व निकालना;
- घ) विभिन्न एंडोस्कोपिक प्रक्रियाओं और श्वासनलीच्छेदन।

(ख) ऐसा कौशल जो किसी इंटरन को पर्यवेक्षण अधीन करने में समर्थ होना चाहिए:

- क) इंटरन को, विभिन्न ईएनटी संबंधी रोगों में दल के एक सदस्य के रूप में भाग लिया हुआ और बधिरता की रोकथाम पर राष्ट्रीय कार्यक्रम से परिचित होना चाहिए;
- ख) इंटरन को, ईएनटी संबंधी स्वास्थ्य लाभ कार्यक्रमों का ज्ञान प्राप्त करना चाहिए।

(ग) किसी इंटरन को निम्नलिखित शल्यक्रियाओं/ प्रक्रियाओं का अवलोकन किया हुआ या बरीयतः सहायता किया हुआ होना चाहिए:

- क) इंटरन को, हेड मिरर, कर्णदर्शी और अप्रत्यक्ष स्वरयंत्रदर्शी के इस्तेमाल और कान-नाक और गले (ईएनटी) की सामान्य समस्याओं की प्रथम पंक्ति के प्रबंधन में कौशल प्राप्त होना चाहिए।

12.6.8 नेत्ररोग-विज्ञान

लक्ष्य :

स्नातक-पूर्व छात्र को नेत्ररोग-विज्ञान में अध्यापन का उद्देश्य उसे ऐसा ज्ञान और कौशल प्रदान करना है जो उसे अभिघात, तीव्र नेत्र श्लेष्मला-शोथ, प्रत्यूजता श्लेष्मला-शोथ, शुष्कण, उत्क्रम मापीय चाक्षुष फोड़ा, बहुवर्णभासी-शोथ, निकटदृष्टिता, टाइपरमेट्रोपिथ, मोतियाबिंद, सबलबाय, चाक्षुष चोट और दृष्टि की अचानक क्षति जैसी नेत्र-विज्ञान संबंधी सामान्य स्थितियों का निदान और उपचार करने में सक्षम बनाएगा।

(क) चिकित्सीय – किसी इंटरन को निम्नलिखित करना चाहिए या उसमें सहायता करनी चाहिए:

- क) उप श्लेष्मला इंजेक्शन
- ख) आंख में पट्टी बांधना

- ग) कंकड़ निकालना
- घ) इपिलेशन और विद्युत अपघटन
- ङ) नेत्र से विजातीय तत्व निकालना
- च) चाक्षुष फोड़ों का प्रदाहन
- छ) चालाजियन निकालना
- ज) उत्क्रममापी सुधार
- झ) नेत्र श्लेष्मला विस्फारण का सीवन
- ञ) पलकों की मरम्मत
- ट) सबलाबाय सर्जरी
- ठ) शव से नेत्र को निकालना

(ख) ऐसा कौशल, जो किसी इंटरन को पर्यवेक्षण के अधीन करने में समर्थ होना चाहिए:

- क) नेत्रहीन के स्वास्थ्यलाभ की पद्धतियों के संबंध में सलाह देना।

(ग) किसी इंटरन को निम्नलिखित शल्यक्रियाओं/ प्रक्रियाओं का अवलोकन किया हुआ या बरीयतः सहायता किया हुआ होना चाहिए:

- क) अपवर्तक त्रुटियों का मूल्यांकन और उनके सुधार की सलाह देना;
- ख) सामान्य दैहिक विकृतियों में चाक्षुष परिवर्तनों का निदान;
- ग) स्वरमापी पिचकारी मारने, प्रत्यक्ष नेत्ररोग-विज्ञान संबंधी सूक्ष्मपटलदर्शी, वस्तुपरक अपवर्तन और परिमंडल का प्रतिदीपित अभिरंजन जैसी जांच प्रक्रियाएं करना।

12.6.9 विकलांग-विज्ञान

लक्ष्य :

स्नातक-पूर्व छात्र को विकलांग-विज्ञान और भौतिक मेडिसिन तथा स्वास्थ्य लाभ के अध्यापन का उद्देश्य ऐसा ज्ञान और कौशल प्रदान करना है, जो उसे सामान्य बीमारियों का निदान और उपचार करने में समर्थ बना सके। उसके पास अस्थिभंग, विस्थापन, वास्तविक अस्थि मृदुता, तीव्र पोलियो मेरुमज्जाशोथ और जन्मजात टेलीपेसइड्रिनोवारस (सीटीईवी) और कूल्हे के विस्थापन (सीबीएफ) जैसी सामान्य जन्मजात विरूपताओं की मौजूदगी का निदान करने और अनुमान लगाने की योग्यता होनी चाहिए।

(क) चिकित्सीय – किसी इंटरन को निम्नलिखित में सहायता करनी चाहिए:

- क) आपातकालिक खपची बांधने, सुस्थिर खपची बांधने और शल्यक्रिया पश्चात खपची बांधने के उद्देश्य के लिए खपची बांधना (प्लास्टर स्लैब) और थौमस स्पिलंग का अनुप्रयोग।
- ख) सामान्य अस्थिभंगों – अंगुल्यास्थि, करभास्थि, प्रपदास्थि और कोलेस अस्थिभंग का मैनुअल न्यूनीकरण।
- ग) सामान्य विस्थापनों – अंतर-अंगुल्यस्थि, कर-उंगली अस्थि, कोहनी और कंधे के विस्थापनों का मैनुअल न्यूनीकरण।
- घ) बाजू, प्रबाहु, टांग और टखने के अविस्थापित अस्थिभंग के लिए प्लास्टर निक्षेपण अनुप्रयोग।

- ड) किसी बहुल-चोट वाले मरीज की आपातकालिक देखभाल।
- च) मेरुदंड की चोट वाले मरीजों का परिवहन और शैय्यागत देखभाल।

(ख) ऐसा कौशल जिसे किसी इंटर्न को पर्यवेक्षण के अधीन करने में समर्थ होना चाहिए:

- क) मेरुरज्जू-शोथ, प्रमस्तिष्कीय पक्षाघात, सीटीईवी और सीडीएच के पूर्वानुमान के बारे में सलाह देना।
- ख) हाथ के छिन्नांग व्यक्ति और अंगच्छेदन वाले अभिघातीय और कुष्ठरोग वाली विरूपताओं के स्वास्थ्य लाभ के बारे में सलाह देना।

(ग) किसी इंटर्न को निम्नलिखित शल्यक्रियाओं का अवलोकन किया हुआ या वरीयतः सहायता किया हुआ होना चाहिए:

- क) तीव्र मेरूमज्जाशोथ के लिए अपवहन
- ख) चिरकालिक मेरूमज्जाशोथ के लिए अंग पृथक्करण
- ग) बाह्य स्थायीकरण का अनुप्रयोग
- घ) लंबी अस्थिभंग का आंतरिक स्थायीकरण

12.6.10 त्वचारोग-विज्ञान, रतिजरोग-विज्ञान और कुष्ठरोग

लक्ष्य :

स्नातक-पूर्व छात्र को त्वचारोग-विज्ञान, रतिजरोग-विज्ञान और कुष्ठरोग में अध्यापन का उद्देश्य, ऐसा ज्ञान और कौशल प्रदान करना है जो उसे सामान्य त्वचारोग-विज्ञान संबंधी संक्रमणों और कुष्ठरोग का निदान तथा उपचार करने में समर्थ बना सके। वह, इतिवृत्त, शारीरिक परीक्षण और सुसंगत प्रयोगशाला जांचों के आधार पर नैदानिक निदान के लिए सक्षमता प्राप्त करेगा/करेगी और प्रबंधन की समुचित पद्धति आरंभ करेगा/करेगी। इसमें, ऊष्ण प्रदेशों में सामान्य रोगों (परजीवी, बैक्टीरियल और वायरल संक्रमण तथा दैहिक बीमारियों) की त्वचीय अभिव्यक्तियां शामिल होंगी।

क. चिकित्सीय – इंटर्नशिप के अंत में कोई इंटर्न निम्नलिखित करने में समर्थ होना/होनी चाहिए:

- क) उचित नैदानिक परीक्षण करना, भौतिक निष्कर्ष प्रकाश में लाना और उनकी व्याख्या करना और सामान्य विकृतियों और आपातकालिक स्थितियों का निदान करना।
- ख) शैय्यागत निदान करने, विशेष रूप से कुष्ठरोग के रोगियों और यौन संक्रमित रोगियों के लिए एएफबी हेतु स्टैनिंग और स्लिट मैल तैयार करने के लिए सरल नैत्यक जांच प्रक्रियाएं करना।
- ग) चिकित्सीय प्रत्युत्तर की अनुपयुक्तता के मामले में विशेषज्ञताप्राप्त देखभाल के लिए रेफरल की आवश्यकता का पता लगाते हुए सामान्य रोगों का प्रबंधन करना।

ख. किसी इंटर्न को निम्नलिखित शल्यक्रियाओं/ प्रक्रियाओं का अवलोकन किया हुआ या वरीयतः सहायता किया हुआ होना चाहिए:

- क) नैदानिक उद्देश्य के लिए त्वचा बायॉप्सी

12.6.11 मनश्चिकित्सा

लक्ष्य :

स्नातक-पूर्व छात्र को मनश्चिकित्सा में अध्यापन करने का उद्देश्य, उसे ऐसा ज्ञान और कौशल प्रदान करना है जो उसे सामान्य मनश्चिकित्सीय

बीमारियों का निदान और उपचार करने में समर्थ बना सके। वह, इतिवृत्त, शारीरिक परीक्षण और सुसंगत प्रयोगशाला जांचों के आधार पर नैदानिक निदान के लिए सक्षमता प्राप्त करेगा/ करेगी। वह दैहिक बीमारियों की व्यवहारजन्य अभिव्यक्तियों का पता लगाने में समर्थ होगा/होगी।

क. चिकित्सीय – किसी इंटरन को निम्नलिखित करने चाहिए या उनमें सहायता करनी चाहिए:

- क) सामान्य मनश्चिकित्सीय विकृतियों का निदान और प्रबंधन करना।
- ख) मनोवैज्ञानिक प्रतिक्रियाओं का पता लगाना और प्रबंधन करना।
- ग) चिकित्सीय और शल्यचिकित्सीय मरीजों में व्यवहारजन्य विकृतियों का निदान और प्रबंधन करना।

ख. किसी इंटरन को निम्नलिखित शल्यक्रियाओं/ प्रक्रियाओं में अवलोकन किया हुआ या वरीयतः सहायता किया हुआ होना चाहिए:

- क) ईसीटी संचालन
- ख) चिकित्सीय परामर्श और अनुवर्तन

12.6.12 श्वसनी मेडिसिन

लक्ष्य :

स्नातक-पूर्व छात्र को श्वसनी मेडिसिन में अध्यापन का उद्देश्य, ऐसा ज्ञान और कौशल प्रदान करना है, जो उसे सामान्य श्वसनी बीमारियों का निदान और उपचार करने में समर्थ बना सके। वह, इतिवृत्त, शारीरिक जांच और सुसंगत प्रयोगशाला जांचों के आधार पर नैदानिक निदान के लिए सक्षमता प्राप्त करेगा/ करेगी और समुचित प्रबंधन पद्धति आरंभ करेगा/ करेगी।

क. चिकित्सीय – किसी इंटरन को निम्नलिखित करने चाहिए या उनमें सहायता करनी चाहिए:

- क) सामान्य श्वसनी विकृतियों और आपातकालिक स्थितियों का निदान और प्रबंधन करना।
- ख) शैथ्यागत निदान करने, विशेष रूप से थूक संग्रहण, एएफबी जैसे हेतु-विज्ञान संबंधी अवयवी के लिए जांच, वक्ष एक्स-रे की व्याख्या और श्वसनी कार्य परीक्षणों के लिए अपेक्षित सरल नैत्यक जांच संबंधी प्रक्रियाएं करना।
- ग) विभिन्न बीमारियों में विभिन्न रक्त गैसों और पीएच(pH) असामान्यताओं की व्याख्या और प्रबंधन करना।

ख. किसी इंटरन को निम्नलिखित शल्यक्रियाओं/ प्रक्रियाओं का अवलोकन किया हुआ या वरीयतः सहायता किया हुआ होना चाहिए:

- क) स्वरयंत्रदर्शी
- ख) फुफुसावरणीय श्वास, श्वसनी फिजियोथेरेपी, कंठ्य इंटुबेशन और प्राणवायु-वक्षीय अपवहन श्वास।
- ग) चिकित्सीय परामर्श और अनुवर्तन।

12.6.13 संचेतनाहर-विज्ञान

लक्ष्य :

स्नातक-पूर्व छात्र को संचेतनाहर-विज्ञान में अध्यापन का उद्देश्य ऐसा ज्ञान और कौशल प्रदान करना है जो उसे संचेतनाहर के सिद्धांत समझने और संचेतनाहर के जोखिम तथा जटिलताओं की पहचान करने में समर्थ

बना सके। इंटरनशिप के अंत में स्नातक को हृदयाघात की पहचान करने सहित सही-सही हृदयी फुफ्फुसीय पुनरुज्जीवित करने में समर्थ होना चाहिए:

(क) चिकित्सीय – किसी इंटरन को निम्नलिखित करने चाहिए या उनमें सहायता प्रदान करनी चाहिए:

- क) संचेतनाहर-पूर्व जांच और संचेतनाहर-पूर्व चिकित्सन प्रेसक्राइब करना।
- ख) शिरा-वेधन और अंतरा-शिरा ड्रिप लगाना।
- ग) श्वरयंत्र-वेधन और अंतःश्वासनली इंटुबेशन।
- घ) कटिवेधन, मेरूदण्ड संचेतनाहर और सरल तंत्रिका अवरोधन।
- ङ) पर्यवेक्षण के अधीन सरल, सामान्य संचेतनाहर प्रक्रियाएं
- च) संचेतनाहर के दौरान और शल्यक्रिया अवधि के पश्चात मरीज को मॉनीटर करना।
- छ) संचेतनाहर संबंधी रिकार्ड रखना।
- ज) हृदयाघात की पहचान करने सहित सही-सही हृदयी फुफ्फुसीय पुनरुज्जीवित करना।

(ख) ऐसा कौशल जिसे पर्यवेक्षण के अधीन किसी इंटरन को करने में समर्थ होना चाहिए:

- क) संचेतनाहर की विभिन्न पद्धतियों के संबंध में परामर्श और सलाह देना।
- ख) आपातकालिक संचेतनाहर से संबद्ध समस्याओं की पहचान और प्रबंधन करना।
- ग) शल्यक्रिया अवधि के पश्चात जटिलताओं की पहचान और उपचार करना।

(ग) किसी इंटरन को निम्नलिखित शल्यक्रियाओं/प्रक्रियाओं का अवलोकन किया हुआ या वरीयतः सहायता प्रदान किया हुआ होना चाहिए:

- क) बड़ी और लघु शल्यचिकित्सीय तथा अन्य प्रक्रियाओं के लिए संचेतनाहर।

12.6.14 विकिरण निदान

लक्ष्य:

स्नातक-पूर्व छात्र को विकिरण निदान में अध्यापन का उद्देश्य ऐसा ज्ञान और कौशल प्रदान करना है, जो उसे प्रतिबिंबन-विज्ञान के सिद्धांत समझने और विकिरण निदान की प्रक्रियाओं के जोखिम और जटिलताओं तथा संरक्षात्मक तकनीकों की आवश्यकता की पहचान करने में समर्थ बना सके। इंटरनशिप के अंत में स्नातक को विभिन्न विकिरण निदान प्रक्रियाओं के लिए मरीजों को परामर्श देने तथा तैयार करने में समर्थ होना चाहिए।

किसी इंटरन को निम्नलिखित में सक्षमता प्राप्त करनी चाहिए:

- क) नैदानिक रूप से तीव्र उदरीय स्थितियों का पता लगाना और निदान करना और निदान के लिए समुचित प्रतिबिंबन रूपात्मकता का चयन करना।
- ख) अस्थि भंगों और सिर की चोटों पर विशेष जोर देते हुए एक्स-रे/सीटी स्कैन का इस्तेमाल करके हड्डियों और खोपड़ी में तीव्र अभिघातीय स्थितियों का पता लगाना और उनका निदान करना।
- ग) विकिरण निदान पद्धतियों में, विशेष रूप से गर्भावस्था से संबंधित पद्धतियों में मूलभूत खतरों और पूर्वोपायों की पहचान करना।
- घ) पीसी पीएनडीटी अधिनियम जैसे विभिन्न कानूनों की जागरूकता प्रदर्शित करना।

12.6.15 भौतिक मेडिसिन और स्वास्थ्य लाभ**लक्ष्य :**

स्नातक-पूर्व छात्र को भौतिक मेडिसिन एवं स्वास्थ्य लाभ में अध्यापन का उद्देश्य ऐसा ज्ञान और कौशल प्रदान करना है जो उसे शारीरिक उपचार की आवश्यकता वाले सामान्य जोड़ों के दर्द, अस्थि और तंत्रिका संबंधी बीमारियों का निदान और उपचार करने में समर्थ बना सके। वह इतिवृत्त, शारीरिक परीक्षण तथा सुसंगत प्रयोगशाला जांचों के आधार पर निदान के लिए सक्षमता प्राप्त करेगा/करेगी और समुचित प्रबंधन पद्धति आरंभ करेगा/ करेगी।

क. चिकित्सीय – किसी इंटरन को निम्नलिखित करने चाहिए या उनमें सहायता करनी चाहिए:

- क) पोलियो मांसपेशी-शोथ, प्रमस्तिष्कीय घात, अर्धांगघात, अधरांगघात, अंगच्छेदन आदि जैसी विकलांग करने वाली सामान्य स्थितियों के मूल्यांकन और विस्तृत इतिवृत्त के आधार पर नैदानिक निदान और प्रबंधन की सक्षमता के साथ निदान और प्रबंधन करना।
- ख) विकलांग करने वाली सामान्य स्थितियों के समुचित अनुवर्तन सहित समग्र स्वास्थ्य लाभ में दल के एक सदस्य के रूप में भाग लेना।
- ग) कृत्रिम अंगों और उपकरणों के फैब्रिकेशन तथा मरम्मत की प्रक्रियाएं।

ख. किसी इंटरन को निम्नलिखित शल्यक्रियाओं/ प्रक्रियाओं में अवलोकन किया हुआ या वरीयतः सहायता प्रदान किया हुआ होना चाहिए:

- क) स्वयं-सहायता उपकरणों और खपचियों तथा गतिकता यंत्रों का इस्तेमाल।
- ख) विकलांग व्यक्तियों के लिए उपगम्यता समस्याएं और होम मेकिंग।
- ग) किसी छिन्नांग आदि में स्टंप एक्सरसाइज, पोलियो में विरूपता की रोकथाम करने जैसी सामान्य स्थितियों में सरल एक्सरसाइज थेरेपी।
- घ) चिकित्सीय परामर्श और अनुवर्तन।

12.6.16 फोरेंसिक मेडिसिन और विष-विज्ञान**लक्ष्य :**

स्नातक-पूर्व छात्र को फोरेंसिक मेडिसिन में अध्यापन का उद्देश्य ऐसा कौशल और ज्ञान प्रदान करना है जो उसे दिन-प्रतिदिन की प्रैक्टिस में सामान्य, चिकित्सीय-विधिक समस्याओं का प्रबंधन करने में समर्थ बना सके। वह, इतिवृत्त, शारीरिक परीक्षण और शव-परीक्षा के दौरान सुसंगत अवलोकनों के आधार पर शव-परीक्षा निदान के लिए सक्षमता प्राप्त करेगा/करेगी।

क. किसी इंटरन को निम्नलिखित करने चाहिए या उनमें सहायता प्रदान करनी चाहिए:

- क) किसी अस्पताल में या जनरल प्रैक्टिस में चिकित्सीय-विधिक समस्याओं का पता लगाना और उनका दस्तावेजीकरण करना।
- ख) अस्पताल की विभिन्न स्थितियों में एक चिकित्सक के रूप में चिकित्सीय-विधिक जिम्मेदारियों का पता लगाना।
- ग) समुदाय में विष देने की मूलभूत स्थितियों में सक्षमता के साथ निदान और प्रबंधन करना।
- घ) यौन प्रहार के मामलों में सक्षमता और दस्तावेजीकरण के साथ निदान और प्रबंधन करना।

ड) विभिन्न चिकित्सीय-विधिक स्थितियों में चिकित्सीय-विधिक रिपोर्टें तैयार करना।

ख. किसी इंटर्न को निम्नलिखित शल्यक्रियाओं/प्रक्रियाओं, जो सारणी 11 में दी गई हैं, में अवलोकन किया हुआ या वरीयतः सहायता प्रदान किया हुआ होना चाहिए:

क) पुलिस द्वारा उनके कार्य-निष्पादन के दौरान विभिन्न चिकित्सीय-विधिक/शव-परीक्षण प्रक्रियाएं और औपचारिकताएं।

सारणी 11 : प्रमाणनयोग्य प्रक्रियात्मक कौशल

बैचलर ऑफ मेडिसिन एण्ड बैचलर ऑफ सर्जरी (एमबीबीएस)-भारतीय आयुर्विज्ञान स्नातक के लिए
वांछनीय के रूप में संस्तुत कौशलों की एक व्यापक सूची

विशेषज्ञता	प्रक्रिया
जनरल मेडिसिन	<ul style="list-style-type: none"> • शिला-वेधन (आई) • अंतरा-मांसपेशीय इंजेक्शन (आई) • अंतरा-त्वचीय इंजेक्शन (डी) • अवत्वचीय इंजेक्शन (आई) • अंतरा-शिरा (IV) इंजेक्शन (आई) • IV इनफ्यूजन स्थापित करना और ड्रिप दर परिकलित करना (आई) • रक्ताधान (ओ) • मूत्र मार्ग में मूत्रनली लगाना (डी) • मूलभूत लाइफ सपोर्ट (डी) • ऑक्सीजन थेरेपी (आई) • ऐरासल थेरेपी/नेबुलाइजेशन (आई) • राइलज ट्यूब अंतर्वेशन (डी) • कटिवेधन (ओ) • फुफुसावरण और तापसिक प्रश्वास (ओ) • हृदयीय पुनरुज्जीवन (डी) • परिधीय रक्त मैल व्याख्या (आई) • शैय्यागत मूत्र विश्लेषण (डी)
जनरल शल्यचिकित्सा	<ul style="list-style-type: none"> • मौलिक सीवन (आई) • मौलिक घाव देखभाल (आई) • मूल बैंडेजिंग (आई) • ऊपरी सतही घाव में चीरा लगाना और अपवहन (आई) • अभिघात (आई) और अभिघात लाइफ सपोर्ट (डी) का प्रारंभिक प्रबंधन

विकलांग-विज्ञान	<ul style="list-style-type: none"> • मौलिक खपचियों और गलपट्टियों का अनुप्रयोग (आई) • मौलिक अस्थिभंग और विस्थापन प्रबंधन (ओ) • संदावी बैंडेज (आई)
स्त्रीरोग-विज्ञान	<ul style="list-style-type: none"> • पर स्पेकुलम (पीएस) और पर वैजाइनल (पीवी) परीक्षण (आई) • एसेटिक एसिड के साथ सर्विक्स (वीआईए) का चाक्षुक निरीक्षण (ओ) • लेई मैल नमूना संग्रहण और व्याख्या (आई) • अंतरा-गर्भाशय गर्भनिरोधक उपकरण (आईयूसीडी) • अंतर्वेशन और निष्कासन (आई)
प्रसूति	<ul style="list-style-type: none"> • प्रसूति परीक्षण (आई) • इपिसियोटॉमी (आई) • सामान्य प्रसव पीड़ा और प्रसव (पार्टोग्राम सहित) (आई)
बालरोग	<ul style="list-style-type: none"> • नव प्रसव पुनरुज्जीवन (डी) • बाल IV इनफ्यूजन स्थापित करना और ड्रिप दर परिकलित करना (आई) • बाल अंतरा-अस्थितमय पद्धति स्थापित करना (ओ)
फॉरेंसिक मेडिसिन	<ul style="list-style-type: none"> • अभिघात का दस्तावेजीकरण और प्रमाणन (आई) • मृत्यु का निदान और प्रमाणीकरण (डी) • आपातकालिक रोगियों से संबंधित विधिक दस्तावेजीकरण (डी) • चिकित्सीय-विधिक रोगियों का प्रमाणीकरण अर्थात आयु अनुमान, यौन प्रहार आदि (डी) • पुलिस, जन स्वास्थ्य प्राधिकारियों और अन्य संबंधित विभागों आदि के साथ चिकित्सीय-विधिक मामलों में संसूचन स्थापित करना (डी)
कान-नाक-गलारोग-विज्ञान	<ul style="list-style-type: none"> • एंटेरियर नैसल पैकिंग (डी) • ओटोस्कोपी (आई)
नेत्ररोग-विज्ञान	<ul style="list-style-type: none"> • चाक्षुस तीक्ष्णता परीक्षण (आई) • डिजिटल टोनोमेट्री (डी) • अप्रत्यक्ष ओफाल्मोस्कोपी (ओ) • इपिलेशन (ओ) • नेत्र इरिगेशन (आई) • नेत्र औषधि डालना (आई) • आकुलर बैंडेजिंग (आई)

त्वचारोग-विज्ञान	<ul style="list-style-type: none"> • कुष्ठरोग के लिए स्लिट त्वचा मैल (ओ) • त्वचा बॉयप्सी (ओ) • ग्राम की स्टेंड मैल व्याख्या (आई) • फफूंद के लिए स्कैपिंग का केओएच परीक्षण (डी) • डार्क ग्राउंड इलुमिनेशन (ओ) • उत्तक मैल (ओ) • कौटरी-रासायनिक और विद्युतीय (ओ)
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आई – मरीजों पर स्वतंत्र रूप से किया गया।

ओ – मरीजों में या अनुप्रतियों में अवलोकन किया गया।

डी – मरीजों या अनुरूपों पर प्रदर्शन और मरीजों में पर्यवेक्षण के अधीन किया गया।

कौशल का प्रमाणन : संबंधित विभाग का कोई संकाय सदस्य कौशल प्रमाणित कर सकता है। सामान्य प्रक्रियाओं के लिए प्रमाणन संकाय सदस्य स्थानीय रूप से तय किया जा सकता है।

[विज्ञापन-III/ 4/ असा./277/19]

डॉ. आर.के. वत्स, महासचिव

पाद टिप्पणी : प्रधान विनियमावली, नामतः "स्नातक चिकित्सा शिक्षा विनियमावली, 1997" भारतीय आयुर्विज्ञान परिषद की दिनांक 04 मार्च, 1997 की अधिसूचना के अंतर्गत भारत के राजपत्र के भाग III, खंड 4 में प्रकाशित की गई थी और इसे भारतीय आयुर्विज्ञान परिषद की दिनांक 29.05.1999, 02.07.2002, 30.09.2003, 16.10.2003, 01.03.2004, 20.10.2008, 15.12.2008, 22.12.2008, 25.03.2009, 19.04.2010, 07.10.2010, 21.12.2010, 15.02.2012, 29.12.2015, 05.08.2016, 21.09.2016, 10.03.2017, 04.07.2017, 23.01.2018, 06.02.2018, 21.05.2018, 05.02.2019 और 14.05.2019 की अधिसूचनाओं के अंतर्गत संशोधित किया गया था।

**BOARD OF GOVERNORS IN SUPER-SESSION
OF MEDICAL COUNCIL OF INDIA**

AMENDMENT NOTIFICATION

New Delhi, the 4th November, 2019

No. MCI-34(41)/2019-Med./161726.—In exercise of the powers conferred by Section 33 of the Indian Medical Council Act, 1956 (102 of 1956), the Board of Governors in super-session of Medical Council of India with the previous sanction of the Central Government, hereby makes the following Regulations to further amend the “Regulations on Graduate Medical Education, 1997”, namely: -

1. (i) These Regulations may be called the “Regulations on Graduate Medical Education (Amendment), 2019.
- (ii) They shall come into force from the date of their publication in the Official Gazette.
2. The following shall be added as clause 1A to the Regulations on Graduate Medical Education, 1997:-
 - (i) The Regulations of Graduate Medical Education, 1997 from clause 2 to 14 contained in Chapters I to V and the Appendices and Schedules appended therein shall be included as Part I of the Regulation. These provisions shall be the governing Regulations with respect to batches admitted in MBBS courses until academic year 2018-19.
 - (ii) Part II containing the following Chapters shall be added to the Regulations on Graduate Medical Education, 1997 that shall be the governing Regulations with respect to batches admitted in MBBS course from academic year 2019-20 onwards.
3. Following shall be added as Part II of the Regulations on Graduate Medical Education, 1997:-

Part II

For MBBS course starting from academic year 2019-20 onwards

THE REGULATIONS ON GRADUATE MEDICAL EDUCATION, 1997

PART II

ARRANGEMENT OF CLAUSES

CHAPTER I

GENERAL CONSIDERATIONS AND TEACHING APPROACH

1. **Introduction**
2. **Objectives of the Indian Medical Graduate Training Programme**
 - 2.1. **National Goals**
 - 2.2. **Institutional Goals**
 - 2.3. **Goals and Roles for the Learner**
3. **Competency Based Training Programme of the Indian Medical Graduate**
4. **Broad Outline on training format**

CHAPTER II**ADMISSION TO INDIAN MEDICAL GRADUATE PROGRAMME:
NATIONAL ELIGIBILITY-CUM-ENTRANCE TEST
AND COMMON COUNSELLING**

5. Admission to the Indian Medical Graduate Programme

CHAPTER III**MIGRATION**

6. Migration

CHAPTER IV**PHASE WISE TRAINING AND TIME DISTRIBUTION
FOR PROFESSIONAL DEVELOPMENT**

7. Training period and time distribution:
8. Phase distribution and timing of examination
9. New teaching / learning elements
- 9.1. Foundation Course
 - 9.2. Early Clinical Exposure
 - 9.3. Electives
 - 9.4. Professional Development including Attitude, Ethics
and Communication Module (AETCOM)
 - 9.5. Learner-doctor method of clinical training (Clinical Clerkship)

CHAPTER V**COMPETENCY BASED CURRICULUM OF THE
INDIAN MEDICAL GRADUATE PROGRAMME**

10. Specific Competencies
- 10.1. Preamble
 - 10.2. Integration
 - 10.3. Pre-clinical Subjects
 - 10.4. Second Professional (Para-Clinical)
 - 10.5. Third Professional (Part I)
 - 10.6. Third Professional (Part II)

CHAPTER VI**ASSESSMENT**

11. Assessment
- 11.1 Eligibility to appear for Professional examinations

11.2 University Examinations**CHAPTER VII****INTERNSHIP****12. Internship****12.1 Goal****12.2 Objectives****12.3 Time Distribution****12.4 Other details****12.5 Assessment of Internship****12.6 Internship – discipline related****CHAPTER I****GENERAL CONSIDERATIONS AND TEACHING APPROACH****1. Introduction**

The provisions contained in Part II of these Regulations shall apply to the MBBS course starting from academic year 2019-20 onwards

2. Indian Medical Graduate Training Programme

The undergraduate medical education programme is designed with a goal to create an “Indian Medical Graduate” (IMG) possessing requisite knowledge, skills, attitudes, values and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being globally relevant. To achieve this, the following national and institutional goals for the learner of the Indian Medical Graduate training programme are hereby prescribed:-

2.1. National Goals

At the end of undergraduate program, the Indian Medical Graduate should be able to:

- (a) Recognize “health for all” as a national goal and health right of all citizens and by undergoing training for medical profession to fulfill his/her social obligations towards realization of this goal.
- (b) Learn every aspect of National policies on health and devote her/him to its practical implementation.
- (c) Achieve competence in practice of holistic medicine, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases.
- (d) Develop scientific temper, acquire educational experience for proficiency in profession and promote healthy living.
- (e) Become exemplary citizen by observance of medical ethics and fulfilling social and professional obligations, so as to respond to national aspirations.

2.2. Institutional Goals

- (1) In consonance with the national goals each medical institution should evolve institutional goals to define the kind of trained manpower (or professionals) they intend to produce. The Indian Medical Graduates coming out of a medical institute should:
 - (a) be competent in diagnosis and management of common health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.
 - (b) be competent to practice preventive, promotive, curative, palliative and rehabilitative medicine in respect to the commonly encountered health problems.
 - (c) appreciate rationale for different therapeutic modalities; be familiar with the administration of “essential medicines” and their common adverse effects.

- (d) be able to appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.
- (e) possess the attitude for continued self learning and to seek further expertise or to pursue research in any chosen area of medicine, action research and documentation skills.
- (f) be familiar with the basic factors which are essential for the implementation of the National Health Programmes including practical aspects of the following:
 - (i) Family Welfare and Maternal and Child Health (MCH)
 - (ii) Sanitation and water supply
 - (iii) Prevention and control of communicable and non-communicable diseases
 - (iv) Immunization
 - (v) Health Education
 - (vi) Indian Public Health Standards (IPHS), at various levels of service delivery
 - (vii) Bio-medical waste disposal
 - (viii) Organizational and/or institutional arrangements.
- (g) acquire basic management skills in the area of human resources, materials and resource management related to health care delivery, hospital management, inventory skills and counseling.
- (h) be able to identify community health problems and learn to work to resolve these by designing, instituting corrective steps and evaluating outcome of such measures.
- (i) be able to work as a leading partner in health care teams and acquire proficiency in communication skills.
- (j) be competent to work in a variety of health care settings.
- (k) have personal characteristics and attitudes required for professional life such as personal integrity, sense of responsibility and dependability and ability to relate to or show concern for other individuals.
- (2) All efforts must be made to equip the medical graduate to acquire the skills as detailed in Table 11
Certifiable procedural skills – A Comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) – Indian Medical Graduate.

2.3. Goals and Roles for the Learner

In order to fulfil the goal of the IMG training programme, the medical graduate must be able to function in the following roles appropriately and effectively:-

- 2.3.1. Clinician who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.
- 2.3.2. Leader and member of the health care team and system with capabilities to collect analyze, synthesize and communicate health data appropriately.
- 2.3.3. Communicator with patients, families, colleagues and community.
- 2.3.4. Lifelong learner committed to continuous improvement of skills and knowledge.
- 2.3.5. Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community and profession.

3. Competency Based Training Programme of the Indian Medical Graduate

Competency based learning would include designing and implementing medical education curriculum that focuses on the desired and observable ability in real life situations. In order to effectively fulfil the roles as listed in clause 2, the Indian Medical Graduate would have obtained the following set of competencies at the time of graduation:

3.1. *Clinician, who understands and provides preventive, promotive, curative, palliative and holistic care with compassion*

- 3.1.1 Demonstrate knowledge of normal human structure, function and development from a molecular, cellular, biologic, clinical, behavioural and social perspective.

- 3.1.2. Demonstrate knowledge of abnormal human structure, function and development from a molecular, cellular, biological, clinical, behavioural and social perspective.
- 3.1.3. Demonstrate knowledge of medico-legal, societal, ethical and humanitarian principles that influence health care.
- 3.1.4. Demonstrate knowledge of national and regional health care policies including the National Health Mission that incorporates National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), frameworks, economics and systems that influence health promotion, health care delivery, disease prevention, effectiveness, responsiveness, quality and patient safety.
- 3.1.5. Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is complete and relevant to disease identification, disease prevention and health promotion.
- 3.1.6. Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is contextual to gender, age, vulnerability, social and economic status, patient preferences, beliefs and values.
- 3.1.7. Demonstrate ability to perform a physical examination that is complete and relevant to disease identification, disease prevention and health promotion.
- 3.1.8. Demonstrate ability to perform a physical examination that is contextual to gender, social and economic status, patient preferences and values.
- 3.1.9. Demonstrate effective clinical problem solving, judgment and ability to interpret and integrate available data in order to address patient problems, generate differential diagnoses and develop individualized management plans that include preventive, promotive and therapeutic goals.
- 3.1.10. Maintain accurate, clear and appropriate record of the patient in conformation with legal and administrative frame works.
- 3.1.11. Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context.
- 3.1.12. Demonstrate ability to prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy and interventions based on the principles of rational drug therapy, scientific validity, evidence and cost that conform to established national and regional health programmes and policies for the following:
 - (i) Disease prevention,
 - (ii) Health promotion and cure,
 - (iii) Pain and distress alleviation, and
 - (iv) Rehabilitation.
- 3.1.13. Demonstrate ability to provide a continuum of care at the primary and/or secondary level that addresses chronicity, mental and physical disability.
- 3.1.14. Demonstrate ability to appropriately identify and refer patients who may require specialized or advanced tertiary care.
- 3.1.15. Demonstrate familiarity with basic, clinical and translational research as it applies to the care of the patient.
- 3.2. ***Leader and member of the health care team and system***
 - 3.2.1. Work effectively and appropriately with colleagues in an inter-professional health care team respecting diversity of roles, responsibilities and competencies of other professionals.
 - 3.2.2. Recognize and function effectively, responsibly and appropriately as a health care team leader in primary and secondary health care settings.
 - 3.2.3. Educate and motivate other members of the team and work in a collaborative and collegial fashion that will help maximize the health care delivery potential of the team.
 - 3.2.4. Access and utilize components of the health care system and health delivery in a manner that is appropriate, cost effective, fair and in compliance with the national health care priorities and policies, as well as be able to collect, analyze and utilize health data.

- 3.2.5 Participate appropriately and effectively in measures that will advance quality of health care and patient safety within the health care system.
- 3.2.6 Recognize and advocate health promotion, disease prevention and health care quality improvement through prevention and early recognition: in a) life style diseases and b) cancers, in collaboration with other members of the health care team.
- 3.3. ***Communicator with patients, families, colleagues and community***
- 3.3.1 Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients in a language that the patient understands and in a manner that will improve patient satisfaction and health care outcomes.
- 3.3.2 Demonstrate ability to establish professional relationships with patients and families that are positive, understanding, humane, ethical, empathetic, and trustworthy.
- 3.3.3 Demonstrate ability to communicate with patients in a manner respectful of patient's preferences, values, prior experience, beliefs, confidentiality and privacy.
- 3.3.4 Demonstrate ability to communicate with patients, colleagues and families in a manner that encourages participation and shared decision-making.
- 3.4. ***Lifelong learner committed to continuous improvement of skills and knowledge***
- 3.4.1. Demonstrate ability to perform an objective self-assessment of knowledge and skills, continue learning, refine existing skills and acquire new skills.
- 3.4.2. Demonstrate ability to apply newly gained knowledge or skills to the care of the patient.
- 3.4.3. Demonstrate ability to introspect and utilize experiences, to enhance personal and professional growth and learning.
- 3.4.4. Demonstrate ability to search (including through electronic means), and critically evaluate the medical literature and apply the information in the care of the patient.
- 3.4.5. Be able to identify and select an appropriate career pathway that is professionally rewarding and personally fulfilling.
- 3.5. ***Professional who is committed to excellence, is ethical, responsive and accountable to patients, community and the profession***
- 3.5.1. Practice selflessness, integrity, responsibility, accountability and respect.
- 3.5.2. Respect and maintain professional boundaries between patients, colleagues and society.
- 3.5.3. Demonstrate ability to recognize and manage ethical and professional conflicts.
- 3.5.4. Abide by prescribed ethical and legal codes of conduct and practice.
- 3.5.5. Demonstrate a commitment to the growth of the medical profession as a whole.

4. Broad Outline on training format

- 4.1. In order to ensure that training is in alignment with the goals and competencies listed in sub-clause 2 and 3 above:
 - 4.1.1 There shall be a "Foundation Course" to orient medical learners to MBBS programme, and provide them with requisite knowledge, communication (including electronic), technical and language skills.
 - 4.1.2 The curricular contents shall be vertically and horizontally aligned and integrated to the maximum extent possible in order to enhance learner's interest and eliminate redundancy and overlap.
 - 4.1.3. Teaching-learning methods shall be learner centric and shall predominantly include small group learning, interactive teaching methods and case based learning.
 - 4.1.4. Clinical training shall emphasize early clinical exposure, skill acquisition, certification in essential skills; community/primary/secondary care-based learning experiences and emergencies.
 - 4.1.5. Training shall primarily focus on preventive and community based approaches to health and disease, with specific emphasis on national health priorities such as family welfare, communicable and non-communicable diseases including cancer, epidemics and disaster management.

- 4.1.6. Acquisition and certification of skills shall be through experiences in patient care, diagnostic and skill laboratories.
- 4.1.7. The development of ethical values and overall professional growth as integral part of curriculum shall be emphasized through a structured longitudinal and dedicated programme on professional development including attitude, ethics and communication.
- 4.1.8. Progress of the medical learner shall be documented through structured periodic assessment that includes formative and summative assessments. Logs of skill-based training shall be also maintained.
- 4.2. Appropriate Faculty Development Programmes shall be conducted regularly by institutions to facilitate medical teachers at all levels to continuously update their professional and teaching skills, and align their teaching skills to curricular objectives.

CHAPTER II

ADMISSION TO INDIAN MEDICAL GRADUATE PROGRAMME: NATIONAL ELIGIBILITY-CUM-ENTRANCE TEST AND COMMON COUNSELLING

5. Admission to the Indian Medical Graduate Programme

The provision as contained in Part I – Chapter II shall be the governing provisions.

CHAPTER III

MIGRATION

6. Migration

The provision as contained in Part I - Chapter II Clause 6 shall be the governing provisions.

CHAPTER IV

PHASE WISE TRAINING AND TIME DISTRIBUTION FOR PROFESSIONAL DEVELOPMENT

The Competency based Undergraduate Curriculum and Attitude, Ethics and Communication (AETCOM) course, as published by the Medical Council of India and also made available on the Council's website, shall be the curriculum for the batches admitted in MBBS from the academic year 2019-20 onwards.

Provided that in respect of batches admitted prior to the academic year 2019-20, the governing provisions shall remain as contained in the Part I of these Regulations.

7. Training period and time distribution:

- 7.1. Every learner shall undergo a period of certified study extending over 4 ½ academic years, divided into nine semesters from the date of commencement of course to the date of completion of examination which shall be followed by one year of compulsory rotating internship.
- 7.2. Each academic year will have at least 240 teaching days with a minimum of eight hours of working on each day including one hour as lunch break.
- 7.3. Teaching and learning shall be aligned and integrated across specialties both vertically and horizontally for better learner comprehension. Learner centered learning methods should include problem oriented learning, case studies, community oriented learning, self- directed and experiential learning.
- 7.4. The period of 4 ½ years is divided as follows:
 - 7.4.1 Pre-Clinical Phase [(Phase I) - First Professional phase of 13 months preceded by Foundation Course of one month]: will consist of preclinical subjects – Human Anatomy, Physiology, Biochemistry, Introduction to Community Medicine, Humanities, Professional development including Attitude, Ethics & Communication (AETCOM) module and early clinical exposure, ensuring both horizontal and vertical integration.
 - 7.4.2 Para-clinical phase [(Phase II) - Second Professional (12 months)]: will consist of Para-clinical subjects namely Pathology, Pharmacology, Microbiology, Community Medicine, Forensic Medicine and Toxicology, Professional development including Attitude, Ethics & Communication (AETCOM) module and introduction to clinical subjects ensuring both horizontal and vertical integration.

The clinical exposure to learners will be in the form of learner-doctor method of clinical training in all phases. The emphasis will be on primary, preventive and comprehensive health care. A part of training during clinical postings should take place at the *primary level* of health care. It is desirable to provide learning experiences in secondary health care, wherever possible. This will involve:

- (a) Experience in recognizing and managing common problems seen in outpatient, inpatient and emergency settings,
- (b) Involvement in patient care as a team member,
- (c) Involvement in patient management and performance of basic procedures.

7.4.3 Clinical Phase – [(Phase III) Third Professional (28 months)]

- (a) Part I (13 months) - The clinical subjects include General Medicine, General Surgery, Obstetrics & Gynaecology, Pediatrics, Orthopaedics, Dermatology, Otorhinolaryngology, Ophthalmology, Community Medicine, Forensic Medicine and Toxicology, Psychiatry, Respiratory Medicine, Radiodiagnosis & Radiotherapy and Anaesthesiology & Professional development including AETCOM module.
- (b) Electives (2 months) - To provide learners with opportunity for diverse learning experiences, to do research/community projects that will stimulate enquiry, self directed experimental learning and lateral thinking [9.3].
- (c) Part II (13 months) - Clinical subjects include:
 - i. Medicine and allied specialties (General Medicine, Psychiatry, Dermatology Venereology and Leprosy (DVL), Respiratory Medicine including Tuberculosis)
 - ii. Surgery and allied specialties (General Surgery, Orthopedics [including trauma]), Dentistry, Physical Medicine and rehabilitation, Anaesthesiology and Radiodiagnosis)
 - iii. Obstetrics and Gynecology (including Family Welfare)
 - iv. Pediatrics
 - v. AETCOM module

7.5 Didactic lectures shall not exceed one third of the schedule; two third of the schedule shall include interactive sessions, practicals, clinical or/and group discussions. The learning process should include clinical experiences, problem oriented approach, case studies and community health care activities.

The admission shall be made strictly in accordance with the statutory notified time schedule towards the same.

7.6 Universities shall organize admission timing and admission process in such a way that teaching in the first Professional year commences with induction through the Foundation Course by the 1st of August of each year.

(i) Supplementary examinations shall not be conducted later than 90 days from the date of declaration of the results of the main examination, so that the learners who pass can join the main batch for progression and the remainder would appear for the examination in the subsequent year.

(ii) A learner shall not be entitled to graduate later than ten (10) years of her/his joining the first MBBS course.

7.7 No more than four attempts shall be allowed for a candidate to pass the first Professional examination. The total period for successful completion of first Professional course shall not exceed four (4) years. Partial attendance of examination in any subject shall be counted as an attempt.

7.8 A learner, who fails in the second Professional examination, shall not be allowed to appear in third Professional Part I examination unless she/he passes all subjects of second Professional examination.

7.9 Passing in third Professional (Part I) examination is not compulsory before starting part II training; however, passing of third Professional (Part I) is compulsory for being eligible for third Professional (Part II) examination.

7.10 During para-clinical and clinical phases, including prescribed 2 months of electives, clinical postings of three hours duration daily as specified in Tables 5, 6, 7 and 8 would apply for various departments.

8. Phase distribution and timing of examination

8.1 Time distribution of the MBBS programme is given in Table 1.

- 8.2 Distribution of subjects by Professional Phase-wise is given in Table 2.
- 8.3 Minimum teaching hours prescribed in various disciplines are as under Tables 3-7.
- 8.4 Distribution of clinical postings is given in Table 8.
- 8.5 Duration of clinical postings will be:
- 8.5.1 Second Professional : 36 weeks of clinical posting (Three hours per day - five days per week : Total 540 hours)
- 8.5.2 Third Professional part I: 42 weeks of clinical posting (Three hours per day - six days per week : Total 756 hours)
- 8.5.3 Third Professional part II: 44 weeks of clinical posting (Three hours per day - six days per week : Total 792 hours)
- 8.6 Time allotted excludes time reserved for internal / University examinations, and vacation.
- 8.7 Second professional clinical postings shall commence before / after declaration of results of the first professional phase examinations, as decided by the institution/ University. Third Professional parts I and part II clinical postings shall start no later than two weeks after the completion of the previous professional examination.
- 8.8 25% of allotted time of third Professional shall be utilized for integrated learning with pre- and para- clinical subjects. This will be included in the assessment of clinical subjects.

Table 1: Time distribution of MBBS Programme & Examination Schedule

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
							Foundation Course	I MBBS			
I MBBS								Exam I MBBS	II MBBS		
II MBBS								Exam II MBBS	III MBBS		
III MBBS Part I									Exam III MBBS Part I	Electives & Skills	
III MBBS Part II											
Exam III MBBS Part II		Internship									
Internship											

- One month is provided at the end of every professional year for completion of examination and declaration of results.

Table 2: Distribution of subjects by Professional Phase

Phase & year of MBBS training	Subjects & New Teaching Elements	Duration#	University examination
First Professional MBBS	<ul style="list-style-type: none"> Foundation Course (1 month) Human Anatomy, Physiology & Biochemistry, introduction to Community Medicine, Humanities Early Clinical Exposure 	1 + 13 months	I Professional

	<ul style="list-style-type: none"> • Attitude, Ethics, and Communication Module (AETCOM) 		
Second Professional MBBS	<ul style="list-style-type: none"> • Pathology, Microbiology, Pharmacology, Forensic Medicine and Toxicology, • Introduction to clinical subjects including Community Medicine • Clinical postings • Attitude, Ethics & Communication Module (AETCOM) 	12 months	II Professional
Third Professional MBBS Part I	<ul style="list-style-type: none"> • General Medicine, General Surgery, Obstetrics & Gynecology, Pediatrics, Orthopedics, Dermatology, Psychiatry, Otorhinolaryngology, Ophthalmology, Community Medicine, Forensic Medicine and Toxicology, Respiratory medicine, Radiodiagnosis & Radiotherapy, Anesthesiology • Clinical subjects /postings • Attitude, Ethics & Communication Module (AETCOM) 	13 months	III Professional (Part I)
Electives	<ul style="list-style-type: none"> • Electives, Skills and assessment* 	2 months	
Third Professional MBBS Part II	<ul style="list-style-type: none"> • General Medicine, Pediatrics, General Surgery, Orthopedics, Obstetrics and Gynecology including Family welfare and allied specialties • Clinical postings/subjects • Attitude, Ethics & Communication Module (AETCOM) 	13 months	III Professional (Part II)

*Assessment of electives shall be included in Internal Assessment.

Table 3: Foundation Course (one month)

Subjects/ Contents	Teaching hours	Self Directed Learning (hours)	Total hours
Orientation ¹	30	0	30
Skills Module ²	35	0	35
Field visit to Community Health Center	8	0	8
Introduction to Professional Development & AETCOM module	-	-	40
Sports and extracurricular activities	22	0	22
Enhancement of language/ computer skills ³	40	0	40
	-	-	175

1. Orientation course will be completed as single block in the first week and will contain elements outlined in 9.1.
2. Skills modules will contain elements outlined in 9.1.
3. Based on perceived need of learners, one may choose language enhancement (English or local spoken or both) and computer skills. This should be provided longitudinally through the duration of the Foundation Course.

Teaching of Foundation Course will be organized by pre-clinical departments.

Table 4: First Professional teaching hours

Subjects	Lectures (hours)	Small Group Teaching/ Tutorials/ Integrated learning/ Practical (hours)	Self directed learning (hours)	Total (hours)
Human Anatomy	220	415	40	675
Physiology*	160	310	25	495
Biochemistry	80	150	20	250
Early Clinical Exposure**	90	-	0	90
Community Medicine	20	27	5	52
Attitude, Ethics & Communication Module (AETCOM) ***	-	26	8	34
Sports and extracurricular activities	-	-	-	60
Formative assessment and Term examinations	-	-	-	80
Total	-	-	-	1736

* including Molecular Biology.

** Early clinical exposure hours to be divided equally in all three subjects.

*** AETCOM module shall be a longitudinal programme.

Table 5: Second Professional teaching hours

Subjects	Lectures (hours)	Small group learning (Tutorials / Seminars) /Integrated learning (hours)	Clinical Postings (hours) *	Self - Directed Learning (hours)	Total (hours)
Pathology	80	138	-	12	230
Pharmacology	80	138	-	12	230
Microbiology	70	110	-	10	190
Community Medicine	20	30	-	10	60
Forensic Medicine and Toxicology	15	30	-	5	50
Clinical Subjects	75**	-	540***		615
Attitude, Ethics & Communication Module (AETCOM)		29	-	8	37
Sports and extracurricular activities	-	-	-	28	28
Total	-	-	-	-	1440

* At least 3 hours of clinical instruction each week must be allotted to training in clinical and procedural skill laboratories. Hours may be distributed weekly or as a block in each posting based on institutional logistics.

** 25 hours each for Medicine, Surgery and Gynecology & Obstetrics.

***The clinical postings in the second professional shall be 15 hours per week (3 hrs per day from Monday to Friday).

Table 6: Third Professional Part I teaching hours

Subjects	Teaching Hours	Tutorials/ Seminars /Integrated Teaching (hours)	Self- Directed Learning (hours)	Total (hours)
General Medicine	25	35	5	65
General Surgery	25	35	5	65
Obstetrics and Gynecology	25	35	5	65
Pediatrics	20	30	5	55
Orthopaedics	15	20	5	40
Forensic Medicine and Toxicology	25	45	5	75
Community Medicine	40	60	5	105
Dermatology	20	5	5	30
Psychiatry	25	10	5	40
Respiratory Medicine	10	8	2	20
Otorhinolaryngology	25	40	5	70
Ophthalmology	30	60	10	100
Radiodiagnosis and Radiotherapy	10	8	2	20
Anesthesiology	8	10	2	20
Clinical Postings*	-	-	-	756
Attitude, Ethics & Communication Module (AETCOM)		19	06	25
Total	303	401	66	1551

* The clinical postings in the third professional part I shall be 18 hours per week (3 hrs per day from Monday to Saturday).

Table 7: Third Professional Part II teaching hours

Subjects	Teaching Hours	Tutorials/Seminars / Integrated Teaching (hours)	Self - Directed Learning (hours)	Total* (hours)
General Medicine	70	125	15	210
General Surgery	70	125	15	210
Obstetrics and Gynecology	70	125	15	210
Pediatrics	20	35	10	65
Orthopaedics	20	25	5	50
Clinical Postings**				792
Attitude, Ethics & Communication Module (AETCOM)***	28		16	43
Electives				200
Total	250	435	60	1780

* 25% of allotted time of third professional shall be utilized for integrated learning with pre- and para- clinical subjects and shall be assessed during the clinical subjects examination. This allotted time will be utilized as integrated teaching by para-clinical subjects with clinical subjects (as Clinical Pathology, Clinical Pharmacology and Clinical Microbiology).

** *The clinical postings in the third professional part II shall be 18 hours per week (3 hrs per day from Monday to Saturday).*

*** Hours from clinical postings can also be used for AETCOM modules.

Table 8: Clinical postings

Subjects	Period of training in weeks			Total weeks
	II MBBS	III MBBS Part I	III MBBS Part II	
Electives	-	-	8* (4 regular clinical posting)	4
General Medicine ¹	4	4	8+4	20
General Surgery	4	4	8+4	20
Obstetrics & Gynaecology ²	4	4	8 +4	20
Pediatrics	2	4	4	10
Community Medicine	4	6	-	10
Orthopedics - including Trauma ³	2	4	2	8
Otorhinolaryngology	4	4	-	8
Ophthalmology	4	4	-	8
Respiratory Medicine	2	-	-	2
Psychiatry	2	2	-	4
Radiodiagnosis ⁴	2	-	-	2
Dermatology, Venereology & Leprosy	2	2	2	6
Dentistry & Anesthesia	-	2	-	2
Casualty	-	2	-	2
	36	42	48	126

* In four of the eight weeks of electives, regular clinical postings shall be accommodated.

Clinical postings may be adjusted within the time framework.

¹ This posting includes Laboratory Medicine (Para-clinical) & Infectious Diseases (Phase III Part I).

² This includes maternity training and family welfare (including Family Planning).

³ This posting includes Physical Medicine and Rehabilitation.

⁴ This posting includes Radiotherapy, wherever available.

9. New teaching / learning elements

9.1. Foundation Course

9.1.1 **Goal:** The goal of the Foundation Course is to prepare a learner to study medicine effectively. It will be of one month duration after admission.

9.1.2 **Objectives:** The objectives are to:

(a) Orient the learner to:

- (i) The medical profession and the physician's role in society
- (ii) The MBBS programme
- (iii) Alternate health systems in the country and history of medicine

- (iv) Medical ethics, attitudes and professionalism
- (v) Health care system and its delivery
- (vi) National health programmes and policies
- (vii) Universal precautions and vaccinations
- (viii) Patient safety and biohazard safety
- (ix) Principles of primary care (general and community based care)
- (x) The academic ambience

(b) Enable the learner to acquire enhanced skills in:

- (i) Language
- (ii) Interpersonal relationships
- (iii) Communication
- (iv) Learning including self-directed learning
- (v) Time management
- (vi) Stress management
- (vii) Use of information technology

(c) Train the learner to provide:

- (i) First-aid
- (ii) Basic life support

9.1.3 In addition to the above, learners may be enrolled in one of the following programmes which will be run concurrently:

- (a) Local language programme
- (b) English language programme
- (c) Computer skills
- (d) These may be done in the last two hours of the day for the duration of the Foundation Course.

9.1.4 These sessions must be as interactive as possible.

9.1.5 Sports (to be used through the Foundation Course as protected 04 hours / week).

9.1.6 Leisure and extracurricular activity (to be used through the Foundation Course as protected 02 hours per week).

9.1.7 Institutions shall develop learning modules and identify the appropriate resource persons for their delivery.

9.1.8 The time committed for the Foundation Course may not be used for any other curricular activity.

9.1.9 The Foundation Course will have compulsory 75% attendance. This will be certified by the Dean of the college.

9.1.10 The Foundation Course will be organized by the Coordinator appointed by the Dean of the college and will be under supervision of the heads of the preclinical departments.

9.1.11 Every college must arrange for a meeting with parents and their wards.

9.2. Early Clinical Exposure

9.2.1 **Objectives:** The objectives of early clinical exposure of the first-year medical learners are to enable the learner to:

- (a) Recognize the relevance of basic sciences in diagnosis, patient care and treatment,
- (b) Provide a context that will enhance basic science learning,
- (c) Relate to experience of patients as a motivation to learn,
- (d) Recognize attitude, ethics and professionalism as integral to the doctor-patient relationship,

- (e) Understand the socio-cultural context of disease through the study of humanities.

9.2.2 Elements

- (a) Basic science correlation: i.e. apply and correlate principles of basic sciences as they relate to the care of the patient (this will be part of integrated modules).
- (b) Clinical skills: to include basic skills in interviewing patients, doctor-patient communication, ethics and professionalism, critical thinking and analysis and self-learning (this training will be imparted in the time allotted for early clinical exposure).
- (c) Humanities: To introduce learners to a broader understanding of the socio-economic framework and cultural context within which health is delivered through the study of humanities and social sciences.

9.3. Electives

9.3.1 Objectives: To provide the learner with opportunities:

- (a) For diverse learning experiences,
- (b) To do research/community projects that will stimulate enquiry, self-directed, experiential learning and lateral thinking.

9.3.2 Two months are designated for elective rotations after completion of the examination at end of the third MBBS Part I and before commencement of third MBBS Part II.

9.3.3 It is mandatory for learners to do an elective. The elective time should not be used to make up for missed clinical postings, shortage of attendance or other purposes.

9.3.4 Structure

- (a) The learner shall rotate through two elective blocks of 04 weeks each.
- (b) Block 1 shall be done in a pre-selected preclinical or para-clinical or other basic sciences laboratory OR under a researcher in an ongoing research project.
During the electives regular clinical postings shall continue.
- (c) Block 2 shall be done in a clinical department (including specialties, super-specialties, ICUs, blood bank and casualty) from a list of electives developed and available in the institution.

OR

as a supervised learning experience at a rural or urban community clinic.

- (d) Institutions will pre-determine the number and nature of electives, names of the supervisors, and the number of learners in each elective based on the local conditions, available resources and faculty.

9.3.5 Each institution will develop its own mechanism for allocation of electives.

9.3.6 It is preferable that elective choices are made available to the learners in the beginning of the academic year.

9.3.7 The learner must submit a learning log book based on both blocks of the elective.

9.3.8 75% attendance in the electives and submission of log book maintained during elective is required for eligibility to appear in the final MBBS examination.

9.3.9 Institutions may use part of this time for strengthening basic skill certification.

9.4. Professional Development including Attitude, Ethics and Communication Module (AETCOM)

9.4.1 Objectives of the programme: At the end of the programme, the learner must demonstrate ability to:

- (a) understand and apply principles of bioethics and law as they apply to medical practice and research; understand and apply the principles of clinical reasoning as they apply to the care of the patients,
- (b) understand and apply the principles of system based care as they relate to the care of the patient,
- (c) understand and apply empathy and other human values to the care of the patient,
- (d) communicate effectively with patients, families, colleagues and other health care professionals,

- (e) understand the strengths and limitations of alternative systems of medicine,
- (f) respond to events and issues in a professional, considerate and humane fashion,
- (g) translate learning from the humanities in order to further his / her professional and personal growth.

9.4.2 **Learning experiences:**

- (a) This will be a longitudinal programme spread across the continuum of the MBBS programme including internship,
- (b) Learning experiences may include – small group discussions, patient care scenarios, workshop, seminars, role plays, lectures etc.
- (c) Attitude, Ethics & Communication Module (AETCOM module) developed by Medical Council of India should be used longitudinally for purposes of instruction.

9.4.3 75% attendance in Professional Development Programme (AETCOM Module) is required for eligibility to appear for final examination in each professional year.

9.4.4 Internal Assessment will include:

- (a) Written tests comprising of short notes and creative writing experiences,
- (b) OSCE based clinical scenarios / viva voce.

9.4.5 At least one question in each paper of the clinical specialties in the University examination should test knowledge competencies acquired during the professional development programme.

9.4.6 Skill competencies acquired during the Professional Development Programme must be tested during the clinical, practical and viva voce.

9.5. Learner-doctor method of clinical training (Clinical Clerkship)

9.5.1 **Goal:** To provide learners with experience in:

- (a) Longitudinal patient care,
- (b) Being part of the health care team,
- (c) Hands-on care of patients in outpatient and inpatient setting.

9.5.2 **Structure:**

- (a) The first clinical posting in second professional shall orient learners to the patient, their roles and the specialty.
- (b) The learner-doctor programme will progress as outlined in Table 9.
- (c) The learner will function as a part of the health care team with the following responsibilities:
 - (i) Be part of the unit's outpatient services on admission days,
 - (ii) Remain with the admission unit until 6 PM except during designated class hours,
 - (iii) Be assigned patients admitted during each admission day for whom he/she will undertake responsibility, under the supervision of a senior resident or faculty member,
 - (iv) Participate in the unit rounds on its admission day and will present the assigned patients to the supervising physician,
 - (v) Follow the patient's progress throughout the hospital stay until discharge,
 - (vi) Participate, under supervision, in procedures, surgeries, deliveries etc. of assigned patients (according to responsibilities outlined in table 9),
 - (vii) Participate in unit rounds on at least one other day of the week excluding the admission day,
 - (viii) Discuss ethical and other humanitarian issues during unit rounds,
 - (ix) Attend all scheduled classes and educational activities,
 - (x) Document his/her observations in a prescribed log book / case record.

(d) No learner will be given independent charge of the patient

- (e) The supervising physician will be responsible for all patient care decisions

9.5.3 Assessment:

- (a) A designated faculty member in each unit will coordinate and facilitate the activities of the learner, monitor progress, provide feedback and review the log book/ case record.
- (b) The log book/ case record must include the written case record prepared by the learner including relevant investigations, treatment and its rationale, hospital course, family and patient discussions, discharge summary etc.
- (c) The log book should also include records of outpatients assigned. Submission of the log book/ case record to the department is required for eligibility to appear for the final examination of the subject.

Table 9: Learner - Doctor programme (Clinical Clerkship)

Year of Curriculum	Focus of Learner - Doctor programme
Year 1	Introduction to hospital environment, early clinical exposure, understanding perspectives of illness
Year 2	History taking, physical examination, assessment of change in clinical status, communication and patient education
Year 3	All of the above and choice of investigations, basic procedures and continuity of care
Year 4	All of the above and decision making, management and outcomes

CHAPTER V**COMPETENCY BASED CURRICULUM OF THE INDIAN MEDICAL GRADUATE PROGRAMME****10. Specific Competencies**

10.1. Preamble: The salient feature of the revision of the medical curriculum in 2019 is the emphasis on learning which is competency-based, integrated and learner-centered acquisition of skills and ethical & humanistic values.

Each of the competencies described below must be read in conjunction with the goals of the medical education as listed in items 2 to 3.5.5

It is recommended that didactic teaching be restricted to less than one third of the total time allotted for that discipline. Greater emphasis is to be laid on hands-on training, symposia, seminars, small group discussions, problem-oriented and problem-based discussions and self-directed learning. Learners must be encouraged to take active part in and shared responsibility for their learning.

The global competencies to be achieved by the learner are outlined above in Chapter 1- section 3. Since the MBBS programme assessment will continue to be subject based, subject specific competencies have been outlined. These have to be acquired by the learner in the corresponding professional year. These competencies must be interpreted in the larger context outlined in section 3 and may be considered as “sub competencies” of the global competencies.

10.2. Integration must be horizontal (i.e. across disciplines in a given phase of the course) and vertical (across different phases of the course). As far as possible, it is desirable that teaching/learning occurs in each phase through study of organ systems or disease blocks in order to align the learning process. Clinical cases must be used to integrate and link learning across disciplines.

10.3. Pre-clinical Subjects**10.3.1. Human Anatomy**

(a) **Competencies:** The undergraduate must demonstrate:

1. Understanding of the gross and microscopic structure and development of human body,
2. Comprehension of the normal regulation and integration of the functions of the organs and systems on basis of the structure and genetic pattern,
3. Understanding of the clinical correlation of the organs and structures involved and interpret the anatomical basis of the disease presentations.

- (b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in organ systems with clinical correlation that will provide a context for the learner to understand the relationship between structure and function and interpret the anatomical basis of various clinical conditions and procedures.

10.3.2. Physiology

- (a) **Competencies:** The undergraduates must demonstrate:
1. Understanding of the normal functioning of the organs and organ systems of the body,
 2. Comprehension of the normal structure and organization of the organs and systems on basis of the functions,
 3. Understanding of age-related physiological changes in the organ functions that reflect normal growth and development,
 4. Understand the physiological basis of diseases.
- (b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in organ systems in order to provide a context in which normal function can be correlated both with structure and with the biological basis, its clinical features, diagnosis and therapy.

10.3.3. Biochemistry

The course will comprise Molecular and Cellular Biochemistry.

- (a) **Competencies:** The learner must demonstrate an understanding of:
1. Biochemical and molecular processes involved in health and disease,
 2. Importance of nutrition in health and disease,
 3. Biochemical basis and rationale of clinical laboratory tests,
and demonstrate ability to interpret these in the clinical context.
- (b) **Integration:** The teaching/learning programme should be integrated horizontally and vertically, as much as possible, to enable learners to make clinical correlations and to acquire an understanding of the cellular and molecular basis of health and disease.

10.3.4. Introduction to Community Medicine

- (a) **Competencies:** The undergraduate must demonstrate:
1. Understanding of the concept of health and disease,
 2. Understanding of demography, population dynamics and disease burden in National and global context,
 3. Comprehension of principles of health economics and hospital management,
 4. Understanding of interventions to promote health and prevent diseases as envisioned in National and State Health Programmes.

10.4. Second Professional (Para-Clinical)

10.4.1. Pathology

- (a) **Competencies:** The undergraduate must demonstrate:
1. Comprehension of the causes, evolution and mechanisms of diseases,
 2. Knowledge of alterations in gross and cellular morphology of organs in disease states,
 3. Ability to correlate the natural history, structural and functional changes with the clinical manifestations of diseases, their diagnosis and therapy,
- (b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in organ systems recognizing deviations from normal structure and function and clinically correlated so as to provide an overall understanding of the etiology, mechanisms, laboratory diagnosis, and management of diseases.

10.4.2. Microbiology

- (a) **Competencies:** The undergraduate learner demonstrate:
1. Understanding of role of microbial agents in health and disease,
 2. Understanding of the immunological mechanisms in health and disease,
 3. Ability to correlate the natural history, mechanisms and clinical manifestations of infectious diseases as they relate to the properties of microbial agents,
 4. Knowledge of the principles and application of infection control measures,
 5. An understanding of the basis of choice of laboratory diagnostic tests and their interpretation, antimicrobial therapy, control and prevention of infectious diseases.
- (b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in organ systems with emphasis on host-microbe-environment interactions and their alterations in disease and clinical correlations so as to provide an overall understanding of the etiological agents, their laboratory diagnosis and prevention.

10.4.3. Pharmacology

- (a) **Competencies:** The undergraduate must demonstrate:
1. Knowledge about essential and commonly used drugs and an understanding of the pharmacologic basis of therapeutics,
 2. Ability to select and prescribe medicines based on clinical condition and the pharmacologic properties, efficacy, safety, suitability and cost of medicines for common clinical conditions of national importance,
 3. Knowledge of pharmacovigilance, essential medicine concept and sources of drug information and industry-doctor relationship,
 4. Ability to counsel patients regarding appropriate use of prescribed drug and drug delivery systems.
- (b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in organ systems recognizing the interaction between drug, host and disease in order to provide an overall understanding of the context of therapy.

10.4.4. Forensic Medicine and Toxicology

- (a) **Competencies:** The learner must demonstrate:
1. Understanding of medico-legal responsibilities of physicians in primary and secondary care settings,
 2. Understanding of the rational approach to the investigation of crime, based on scientific and legal principles,
 3. Ability to manage medical and legal issues in cases of poisoning / overdose,
 4. Understanding the medico-legal framework of medical practice and medical negligence,
 5. Understanding of codes of conduct and medical ethics.
- (b) **Integration:** The teaching should be aligned and integrated horizontally and vertically recognizing the importance of medico-legal, ethical and toxicological issues as they relate to the practice of medicine.

10.4.5. Community Medicine – as per 10.3.4**10.5. Third Professional (Part I)****10.5.1. General Medicine**

- (a) **Competencies:** The student must demonstrate ability to do the following in relation to common medical problems of the adult in the community:

1. Demonstrate understanding of the patho-physiologic basis, epidemiological profile, signs and symptoms of disease and their investigation and management,
2. Competently interview and examine an adult patient and make a clinical diagnosis,
3. Appropriately order and interpret laboratory tests,
4. Initiate appropriate cost-effective treatment based on an understanding of the rational drug prescriptions, medical interventions required and preventive measures,
5. Follow up of patients with medical problems and refer whenever required,
6. Communicate effectively, educate and counsel the patient and family,
7. Manage common medical emergencies and refer when required,
8. Independently perform common medical procedures safely and understand patient safety issues.

(b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in order to provide sound biologic basis and incorporating the principles of general medicine into a holistic and comprehensive approach to the care of the patient.

10.5.2. General Surgery

(a) **Competencies:** The student must demonstrate:

1. Understanding of the structural and functional basis, principles of diagnosis and management of common surgical problems in adults and children,
2. Ability to choose, calculate and administer appropriately intravenous fluids, electrolytes, blood and blood products based on the clinical condition,
3. Ability to apply the principles of asepsis, sterilization, disinfection, rational use of prophylaxis, therapeutic utilities of antibiotics and universal precautions in surgical practice,
4. Knowledge of common malignancies in India and their prevention, early detection and therapy,
5. Ability to perform common diagnostic and surgical procedures at the primary care level,
6. Ability to recognize, resuscitate, stabilize and provide Basic & Advanced Life Support to patients following trauma,
7. Ability to administer informed consent and counsel patient prior to surgical procedures,
8. Commitment to advancement of quality and patient safety in surgical practice.

(b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in order to provide a sound biologic basis and a holistic approach to the care of the surgical patient.

10.5.3. Obstetrics and Gynaecology

(a) **Competencies in Obstetrics:** The student must demonstrate ability to:

1. Provide peri-conceptional counseling and antenatal care,
2. Identify high-risk pregnancies and refer appropriately,
3. Conduct normal deliveries, using safe delivery practices in the primary and secondary care settings,
4. Prescribe drugs safely and appropriately in pregnancy and lactation,
5. Diagnose complications of labor, institute primary care and refer in a timely manner,
6. Perform early neonatal resuscitation,
7. Provide postnatal care, including education in breast-feeding,
8. Counsel and support couples in the correct choice of contraception,

9. Interpret test results of laboratory and radiological investigations as they apply to the care of the obstetric patient,
10. Apply medico-legal principles as they apply to tubectomy, Medical Termination of Pregnancy (MTP), Pre-conception and Prenatal Diagnostic Techniques (PC PNDT Act) and other related Acts.

Competencies in Gynecology: The student must demonstrate ability to:

1. Elicit a gynecologic history, perform appropriate physical and pelvic examinations and PAP smear in the primary care setting,
 2. Recognize, diagnose and manage common reproductive tract infections in the primary care setting,
 3. Recognize and diagnose common genital cancers and refer them appropriately.
- (b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in order to provide comprehensive care for women in their reproductive years and beyond, based on a sound knowledge of structure, functions and disease and their clinical, social, emotional, psychological correlates in the context of national health priorities.

10.5.4. Pediatrics

(a) **Competencies:** The student must demonstrate:

1. Ability to assess and promote optimal growth, development and nutrition of children and adolescents and identify deviations from normal,
2. Ability to recognize and provide emergency and routine ambulatory and First Level Referral Unit care for neonates, infants, children and adolescents and refer as may be appropriate,
3. Ability to perform procedures as indicated for children of all ages in the primary care setting,
4. Ability to recognize children with special needs and refer appropriately,
5. Ability to promote health and prevent diseases in children,
6. Ability to participate in National Programmes related to child health and in conformation with the Integrated Management of Neonatal and Childhood Illnesses (IMNCI) Strategy,
7. Ability to communicate appropriately and effectively.

(b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in order to provide comprehensive care for neonates, infants, children and adolescents based on a sound knowledge of growth, development, disease and their clinical, social, emotional, psychological correlates in the context of national health priorities.

10.5.5. Orthopaedics (including Trauma)

(a) **Competencies:** The student must demonstrate:

1. Ability to recognize and assess bone injuries, dislocation and poly-trauma and provide first contact care prior to appropriate referral,
2. Knowledge of the medico-legal aspects of trauma,
3. Ability to recognize and manage common infections of bone and joints in the primary care setting,
4. Recognize common congenital, metabolic, neoplastic, degenerative and inflammatory bone diseases and refer appropriately,
5. Ability to perform simple orthopaedic techniques as applicable to a primary care setting,
6. Ability to recommend rehabilitative services for common orthopaedic problems across all ages.

(b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in order to allow the student to understand the structural basis of orthopaedic problems, their management and correlation with function, rehabilitation and quality of life.

10.5.6. Forensic Medicine and Toxicology – as per 10.4.4**10.5.7. Community medicine**

(a) **Competencies:** The learner must demonstrate:

1. Understanding of physical, social, psychological, economic and environmental determinants of health and disease,
2. Ability to recognize and manage common health problems including physical, emotional and social aspects at individual family and community level in the context of National Health Programmes,
3. Ability to Implement and monitor National Health Programmes in the primary care setting,
4. Knowledge of maternal and child wellness as they apply to national health care priorities and programmes,
5. Ability to recognize, investigate, report, plan and manage community health problems including malnutrition and emergencies.

(b) **Integration:** The teaching should be aligned and integrated **horizontally** and vertically in order to allow the learner to understand the impact of environment, society and national health priorities as they relate to the promotion of health and prevention and cure of disease.

10.5.8. Dermatology, Venereology & Leprosy

(a) **Competencies:** The undergraduate student must demonstrate:

1. Understanding of the principles of diagnosis of diseases of the skin, hair, nail and mucosa,
2. Ability to recognize, diagnose, order appropriate investigations and treat common diseases of the skin including leprosy in the primary care setting and refer as appropriate,
3. A syndromic approach to the recognition, diagnosis, prevention, counseling, testing and management of common sexually transmitted diseases including HIV based on national health priorities,
4. Ability to recognize and treat emergencies including drug reactions and refer as appropriate.

(b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in order to emphasize the biologic basis of diseases of the skin, sexually transmitted diseases and leprosy and to provide an understanding that skin diseases may be a manifestation of systemic disease.

10.5.9. Psychiatry

(a) **Competencies:** The student must demonstrate:

1. Ability to promote mental health and mental hygiene,
2. Knowledge of etiology (bio-psycho-social-environmental interactions), clinical features, diagnosis and management of common psychiatric disorders across all ages,
3. Ability to recognize and manage common psychological and psychiatric disorders in a primary care setting, institute preliminary treatment in disorders difficult to manage, and refer appropriately,
4. Ability to recognize alcohol/ substance abuse disorders and refer them to appropriate centers,
5. Ability to assess risk for suicide and refer appropriately,
6. Ability to recognize temperamental difficulties and personality disorders,
7. Assess mental disability and rehabilitate appropriately,
8. Understanding of National and State programmes that address mental health and welfare of patients and community.

(b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in order to allow the student to understand bio-psycho-social-environmental interactions that lead to diseases/ disorders for preventive, promotive, curative, rehabilitative services and medico-legal implications in the care of patients both in family and community.

10.5.10 Respiratory Medicine

(a) **Competencies:** The student must demonstrate:

1. Knowledge of common chest diseases, their clinical manifestations, diagnosis and management,
2. Ability to recognize, diagnose and manage pulmonary tuberculosis as contemplated in National Tuberculosis Control programme,
3. Ability to manage common respiratory emergencies in primary care setting and refer appropriately.

(b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in order to allow the student to recognize diagnose and treat TB in the context of the society, national health priorities, drug resistance and co-morbid conditions like HIV.

10.5.11 Otorhinolaryngology

(a) **Competencies:** The learner must demonstrate:

1. Knowledge of the common Otorhinolaryngological (ENT) emergencies and problems,
2. Ability to recognize, diagnose and manage common ENT emergencies and problems in primary care setting,
3. Ability to perform simple ENT procedures as applicable in a primary care setting,
4. Ability to recognize hearing impairment and refer to the appropriate hearing impairment rehabilitation programme.

(b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in order to allow the learner to understand the structural basis of ENT problems, their management and correlation with function, rehabilitation and quality of life.

10.5.12 Ophthalmology

(a) **Competencies:** The student must demonstrate:

1. Knowledge of common eye problems in the community
2. Recognize, diagnose and manage common eye problems and identify indications for referral,
3. Ability to recognize visual impairment and blindness in the community and implement National programmes as applicable in the primary care setting.

(b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in order to allow the student to understand the structural basis of ophthalmologic problems, their management and correlation with function, rehabilitation and quality of life.

10.5.13a Radiodiagnosis

(a) **Competencies:** The student must demonstrate:

1. Understanding of indications for various radiological investigations in common clinical practice,
2. Awareness of the ill effects of radiation and various radiation protective measures to be employed,
3. Ability to identify abnormalities in common radiological investigations.

(b) **Integration:** Horizontal and vertical integration to understand the fundamental principles of radiologic imaging, anatomic correlation and their application in diagnosis and therapy.

10.5.13b Radiotherapy

(a) **Competencies:** The student must demonstrate understanding of:

1. Clinical presentations of various cancers,
2. Appropriate treatment modalities for various types of malignancies,
3. Principles of radiotherapy and techniques.

- (b) **Integration:** Horizontal and vertical integration to enable basic understanding of fundamental principles of radio-therapeutic procedures.

10.5.14 Anaesthesiology

- (a) **Competencies in Anaesthesiology:** The student must demonstrate ability to:

1. Describe and discuss the pre-operative evaluation, assessing fitness for surgery and the modifications in medications in relation to anaesthesia / surgery,
2. Describe and discuss the roles of Anaesthesiologist as a peri-operative physician including pre-medication, endotracheal intubation, general anaesthesia and recovery (including variations in recovery from anaesthesia and anaesthetic complications),
3. Describe and discuss the management of acute and chronic pain, including labour analgesia,
4. Demonstrate awareness about the maintenance of airway in children and adults in various situations,
5. Demonstrate the awareness about the indications, selection of cases and execution of cardio-pulmonary resuscitation in emergencies and in the intensive care and high dependency units,
6. Choose cases for local / regional anaesthesia and demonstrate the ability to administer the same,
7. Discuss the implications and obtain informed consent for various procedures and to maintain the documents.

- (b) **Integration:** The teaching should be aligned and integrated horizontally and vertically in order to provide comprehensive care for patients undergoing various surgeries, in patients with pain, in intensive care and in cardio respiratory emergencies. Integration with the preclinical department of Anatomy, para- clinical department of Pharmacology and horizontal integration with any/all surgical specialities is proposed.

10.6. Third Professional (Part II)

- 10.6.1. General Medicine – as per 10.5.1
- 10.6.2. General Surgery – as per 10.5.2
- 10.6.3. Obstetrics & Gynaecology – as per 10.5.3
- 10.6.4. Pediatrics – as per 10.5.4
- 10.6.5. Orthopaedics – as per 10.5.5

CHAPTER VI ASSESSMENT

11. Assessment

11.1. Eligibility to appear for Professional examinations

- 11.1.1. The performance in essential components of training are to be assessed, based on:

(a) Attendance

1. Attendance requirements are 75% in theory and 80% in practical /clinical for eligibility to appear for the examinations in that subject. In subjects that are taught in more than one phase – the learner must have 75% attendance in theory and 80% in practical in each phase of instruction in that subject.
2. If an examination comprises more than one subject (for e.g., General Surgery and allied branches), the candidate must have 75% attendance in each subject and 80% attendance in each clinical posting.
3. Learners who do not have at least 75% attendance in the electives will not be eligible for the Third Professional - Part II examination.

- (b) **Internal Assessment:** Internal assessment shall be based on day-to-day assessment. It shall relate to different ways in which learners participate in learning process including assignments, preparation for seminar, clinical case presentation, preparation of clinical case for discussion, clinical case study/problem solving exercise, participation in project for health

care in the community, proficiency in carrying out a practical or a skill in small research project, a written test etc.

1. Regular periodic examinations shall be conducted throughout the course. There shall be no less than three internal assessment examinations in each Preclinical / Para-clinical subject and no less than two examinations in each clinical subject in a professional year. An end of posting clinical assessment shall be conducted for each clinical posting in each professional year.
2. When subjects are taught in more than one phase, the internal assessment must be done in each phase and must contribute proportionately to final assessment. For example, General Medicine must be assessed in second Professional, third Professional Part I and third Professional Part II, independently.
3. Day to day records and log book (including required skill certifications) should be given importance in internal assessment. Internal assessment should be based on competencies and skills.
4. The final internal assessment in a broad clinical specialty (e.g., Surgery and allied specialties etc.) shall comprise of marks from all the constituent specialties. The proportion of the marks for each constituent specialty shall be determined by the time of instruction allotted to each.
5. Learners must secure at least 50% marks of the total marks (combined in theory and practical / clinical; not less than 40 % marks in theory and practical separately) assigned for internal assessment in a particular subject in order to be eligible for appearing at the final University examination of that subject. Internal assessment marks will reflect as separate head of passing at the summative examination.
6. The results of internal assessment should be displayed on the notice board within a 1-2 weeks of the test. Universities shall guide the colleges regarding formulating policies for remedial measures for students who are either not able to score qualifying marks or have missed on some assessments due to any reason.
7. Learners must have completed the required certifiable competencies for that phase of training and completed the log book appropriate for that phase of training to be eligible for appearing at the final university examination of that subject.

University Examinations

- 11.2.1 University examinations are to be designed with a view to ascertain whether the candidate has acquired the necessary knowledge, minimal level of skills, ethical and professional values with clear concepts of the fundamentals which are necessary for him/her to function effectively and appropriately as a physician of first contact. Assessment shall be carried out on an objective basis to the extent possible.
- 11.2.2 Nature of questions will include different types such as structured essays (Long Answer Questions - LAQ), Short Answers Questions (SAQ) and objective type questions (e.g. Multiple Choice Questions - MCQ). Marks for each part should be indicated separately. MCQs shall be accorded a weightage of not more than 20% of the total theory marks. In subjects that have two papers, the learner must secure at least 40% marks in each of the papers with minimum 50% of marks in aggregate (both papers together) to pass.
- 11.2.3 Practical/clinical examinations will be conducted in the laboratories and /or hospital wards. The objective will be to assess proficiency and skills to conduct experiments, interpret data and form logical conclusion. Clinical cases kept in the examination must be common conditions that the learner may encounter as a physician of first contact in the community. Selection of rare syndromes and disorders as examination cases is to be discouraged. Emphasis should be on candidate's capability to elicit history, demonstrate physical signs, write a case record, analyze the case and develop a management plan.
- 11.2.4 Viva/oral examination should assess approach to patient management, emergencies, attitudinal, ethical and professional values. Candidate's skill in interpretation of common investigative data, X-rays, identification of specimens, ECG, etc. is to be also assessed.
- 11.2.5 There shall be one main examination in an academic year and a supplementary to be held not later than 90 days after the declaration of the results of the main examination.

11.2.6 A learner shall not be entitled to graduate after 10 years of his/her joining of the first part of the MBBS course.

11.2.7 University Examinations shall be held as under:

(a) First Professional

1. The first Professional examination shall be held at the end of first Professional training (1+12 months), in the subjects of Human Anatomy, Physiology and Biochemistry.
2. A maximum number of four permissible attempts would be available to clear the first Professional University examination, whereby the first Professional course will have to be cleared within 4 years of admission to the said course. Partial attendance at any University examination shall be counted as an availed attempt.

(b) Second Professional

1. The second Professional examination shall be held at the end of second professional training (11 months), in the subjects of Pathology, Microbiology, and Pharmacology.

(c) Third Professional

1. Third Professional Part I shall be held at end of third Professional part 1 of training (12 months) in the subjects of Ophthalmology, Otorhinolaryngology, Community Medicine and Forensic Medicine and Toxicology
2. Third Professional Part II - (Final Professional) examination shall be at the end of training (14 months including 2 months of electives) in the subjects of General Medicine, General Surgery, Obstetrics & Gynecology and Pediatrics. The discipline of Orthopedics, Anesthesiology, Dentistry and Radiodiagnosis will constitute 25% of the total theory marks incorporated as a separate section in paper II of General Surgery.
3. The discipline of Psychiatry and Dermatology, Venereology and Leprosy (DVL), Respiratory Medicine including Tuberculosis will constitute 25% of the total theory marks in General Medicine incorporated as a separate section in paper II of General Medicine.

(d) Examination schedule is in Table 1.

(e) Marks distribution is in Table 10.

Table 10 : Marks distribution for various subjects

Phase of Course	Written-Theory – Total	Practicals/Orals/ Clinicals	Pass Criteria
First Professional			<u>Internal Assessment:</u> 50% combined in theory and practical (not less than 40% in each) for eligibility for appearing for University Examinations
Human Anatomy - 2 papers	200	100	
Physiology - 2 papers	200	100	
Biochemistry - 2 papers	200	100	
Second Professional			
Pharmacology - 2 Papers	200	100	<u>University Examination</u> Mandatory 50% marks separately in theory and practical (practical = practical/clinical + viva)
Pathology - 2 papers	200	100	
Microbiology - 2 papers	200	100	
Third Professional Part – I			
Forensic Medicine & Toxicology - 1 paper	100	100	
Ophthalmology – 1 paper	100	100	

Otorhinolaryngology – 1 paper	100	100	
Community Medicine - 2 papers	200	100	
Third Professional Part – II			
General Medicine - 2 papers	200	200	
General Surgery - 2 papers	200	200	
Pediatrics – 1 paper	100	100	
Obstetrics & Gynaecology - 2 papers	200	200	

Note: At least one question in each paper of the clinical specialties should test knowledge - competencies acquired during the professional development programme (AETCOM module); Skills competencies acquired during the Professional Development programme (AETCOM module) must be tested during clinical, practical and viva.

In subjects that have two papers, the learner must secure at least 40% marks in each of the papers with minimum 50% of marks in aggregate (both papers together) to pass in the said subject.

11.2.8 **Criteria for passing in a subject:** A candidate shall obtain 50% marks in University conducted examination separately in Theory and Practical (practical includes: practical/ clinical and viva voce) in order to be declared as passed in that subject.

11.2.9 **Appointment of Examiners**

- Person appointed as an examiner in the particular subject must have at least four years of total teaching experience as assistant professor after obtaining postgraduate degree in the subject in a college affiliated to a recognized/approved/permitted medical college.
- For the Practical/ Clinical examinations, there shall be at least four examiners for 100 learners, out of whom not less than 50% must be external examiners. Of the four examiners, the senior-most internal examiner will act as the Chairman and coordinator of the whole examination programme so that uniformity in the matter of assessment of candidates is maintained. Where candidates appearing are more than 100, two additional examiners (one external & one internal) for every additional 50 or part there of candidates appearing, be appointed.
- In case of non-availability of medical teachers, approved teachers without a medical degree (engaged in the teaching of MBBS students as whole-time teachers in a recognized medical college), may be appointed examiners in their concerned subjects provided they possess requisite doctorate qualifications and four years teaching experience (as assistant professors) of MBBS students. Provided further that the 50% of the examiners (Internal & External) are from the medical qualification stream.
- External examiners may not be from the same University.
- The internal examiner in a subject shall not accept external examinership for a college from which external examiner is appointed in his/her subject.
- A University having more than one college shall have separate sets of examiners for each college, with internal examiners from the concerned college.
- External examiners shall rotate at an interval of 2 years.
- There shall be a Chairman of the Board of paper-setters who shall be an internal examiner and shall moderate the questions.
- All eligible examiners with requisite qualifications and experience can be appointed internal examiners by rotation in their subjects.
- All theory paper assessment should be done as central assessment program (CAP) of concerned university.
- Internal examiners should be appointed from same institution for unitary examination in same institution. For pooled examinations at one centre approved internal examiners from same university may be appointed.
- The grace marks up to a maximum of five marks may be awarded at the discretion of the University to a learner for clearing the examination as a whole but not for clearing a subject resulting in exemption.

CHAPTER VII

INTERNSHIP

12. INTERNSHIP

Internship is a phase of training wherein a graduate will acquire the skills and competencies for practice of medical and health care under supervision so that he/she can be certified for independent medical practice as an Indian Medical Graduate. In order to make trained work force available, it may be considered as a phase of training wherein the graduate is expected to conduct actual practice under the supervision of a trained doctor. The learning methods and modalities have to be done during the MBBS course itself with larger number of hands on session and practice on simulators.

12.1. Goal:

The goal of the internship programme is to train medical students to fulfill their roles as doctors of first contact in the community.

12.2 Objectives: At the end of the internship period, the medical graduate will possess all competencies required of an Indian Medical Graduate, namely:

- 12.2.1 Independently provide preventive, promotive, curative and palliative care with compassion,
- 12.2.2 Function as leader and member of the health care team and health system,
- 12.2.3 Communicate effectively with patients, families, colleagues and the community,
- 12.2.4 Be certified in diagnostic and therapeutic skills in different disciplines of medicine taught in the undergraduate programme,
- 12.2.5 Be a lifelong learner committed to continuous improvement of skills and knowledge,
- 12.2.6 Be a professional committed to excellence and is ethical, responsive and accountable to patients, community and profession.

12.3 Time Distribution

Community Medicine (Residential posting)	2 months
General Medicine including 15 days of Psychiatry	2 months
General Surgery including 15 days Anaesthesia	2 months
Obstetrics & Gynaecology including	
Family Welfare Planning	2 months
Pediatrics	1 month
Orthopaedics including PM & R	1 month
Otorhinolaryngology	15 days
Ophthalmology	15 days
Casualty	15 days
Elective posting (1x15 days)	15 days

Subjects for Elective posting will be as follows:

1. Dermatology, Venereology & Leprosy
2. Respiratory Medicine
3. Radio diagnosis
4. Forensic Medicine & Toxicology
5. Blood Bank
6. Psychiatry

Note: Structure internship with assessment at the end in the college.

12.4 Other details:

- 12.4.1 The core rotations of the internship shall be done in primary and secondary/ tertiary care institutions in India. In case of any difficulties, the matter may be referred to the Medical Council of India to be considered on individual merit.
- 12.4.2 Every candidate will be required after passing the final MBBS examination to undergo compulsory rotational internship to the satisfaction of the College authorities and University concerned for a period of 12 months so as to be eligible for the award of the degree of Bachelor of Medicine and Bachelor of Surgery (MBBS) and full registration.
- 12.4.3 The University shall issue a provisional MBBS pass certificate on passing the final examination.
- 12.4.4 The State Medical Council will grant provisional registration to the candidate upon production of the provisional MBBS pass certificate. The provisional registration will be for a period of one year. In the event of the shortage or unsatisfactory work, the period of provisional registration and the compulsory rotating internship shall be suitably extended by the appropriate authorities.
- 12.4.5 The intern shall be entrusted with clinical responsibilities under direct supervision of a designated supervising physician. They shall not work independently.
- 12.4.6 Interns will not issue medical certificate or death certificate or other medico-legal document under their signature.
- 12.4.7 Each medical college must ensure that the student gets learning experience in primary/secondary and urban/rural centers in order to provide a diverse learning experience and facilitate the implementation of national health programmes/ priorities. These shall include community and outreach activities, collaboration with rural and urban community health centers, participation in government health missions etc.
- 12.4.8 One year's approved service in the Armed Forces Medical Services, after passing the final MBBS examination shall be considered as equivalent to the pre-registration training detailed above; such training shall, as far as possible, be at the Base/General Hospital. The training in Community Medicine should fulfill the norms of the MCI as proposed above.
- 12.4.9 In recognition of the importance of hands-on experience, full responsibility for patient care and skill acquisition, internship should be increasingly scheduled to utilize clinical facilities available in District Hospital, Taluka Hospital, Community Health Centre and Primary Health Centre, in addition to Teaching Hospital. A critical element of internship will be the acquisition of specific experiences and skill as listed in major areas: provided that where an intern is posted to District/Sub Divisional Hospital for training, there shall be a committee consisting of representatives of the college/University, the State Government and the District administration, who shall regulate the training of such trainee. Provided further that, for such trainee a certificate of satisfactory completion of training shall be obtained from the relevant administrative authorities which shall be countersigned by the Principal/Dean of College.

12.5 Assessment of Internship:

- 12.5.1 The intern shall maintain a record of work in a log book, which is to be verified and certified by the medical officer under whom he/she works. Apart from scrutiny of the record of work, assessment and evaluation of training shall be undertaken by an objective approach using situation tests in knowledge, skills and attitude during and at the end of the training.
- 12.5.2 Based on the record of work and objective assessment at the end of each posting, the Dean/Principal shall issue cumulative certificate of satisfactory completion of training at the end of internship, following which the University shall award the MBBS degree or declare him eligible for it.
- 12.5.3 Full registration shall only be given by the State Medical Council/Medical Council of India on the award of the MBBS degree by the University or its declaration that the candidate is eligible for it.
- 12.5.4 Some guidelines for the implementation of the training programme are given below.

12.6 INTERNSHIP – DISCIPLINE RELATED:**12.6.1 COMMUNITY MEDICINE****GOAL:**

The aim of teaching the undergraduate student in Community Medicine is to impart such knowledge and skills that may enable him to diagnose and treat common medical illnesses and recognize the importance of community involvement. He/she shall acquire competence to deal effectively with an individual and the community in the context of primary health care. This is to be achieved by hands-on experience in the District Hospital and Primary Health Centre. The details are as under: -

I) District Hospital /Community Health Centre/Attachment to General Practitioner:**A. An intern must be able to do without assistance:**

1. An intern must:
 - a) Be able to diagnose common ailments and advise primary care;
 - b) Demonstrate knowledge on 'Essential drugs' and their usage;
 - c) Recognize medical emergencies, resuscitate and institute initial treatment and refer to a suitable institution.
2. An intern must be familiar with all National Health Programmes (e.g. RCH, UIP, CDD, ARI, FP, ANC, Tuberculosis, Leprosy and others), as recommended by the Ministry of Health and Family Welfare.
3. An intern must:
 - a) Gain full expertise in immunization against infectious disease;
 - b) Participate in programmes related to prevention and control of locally prevalent endemic diseases including nutritional disorders;
 - c) Learn skills in family welfare planning procedures;
4. An intern must:
 - a) Conduct programmes on health education,
 - b) Gain capabilities to use Audiovisual aids,
 - c) Acquire capability of utilization of scientific information for promotion of community health

B. An intern must have observed or preferably assisted at the following:

1. An intern should be capable of establishing linkages with other agencies as water supply, food distribution and other environmental/social agencies.
2. An intern should acquire managerial skills including delegation of duties to and monitoring the activities of paramedical staff and other health professionals.

II) Taluka Hospital/ First Referral Unit**A. An intern must be able to do without assistance:**

1. An intern shall provide health education to an individual/community on:
 - a) tuberculosis,
 - b) small family, spacing, use of appropriate contraceptives,
 - c) applied nutrition and care of mothers and children,
 - d) immunization.

B. An intern must be able to do with supervision:

An intern shall attend at least one school health programme with the medical officer.

III) Primary Health Centre / Urban Health Centre**A. An intern must be able to do without assistance the following:**

- a) Participate in family composite health care (birth to death), inventory of events.
- b) Participate in use of the modules on field practice for community health e.g. safe motherhood, nutrition surveillance and rehabilitation, diarrheal disorders etc.

- c) Participate in and maintain documents related to immunization and cold chain.
- d) Acquire competence in diagnosis and management of common ailments e.g. malaria, tuberculosis, enteric fever, congestive heart failure, hepatitis, meningitis acute renal failure etc.

B. An intern must be able to do under supervision the following:

- a) Acquire proficiency in Family Welfare Programmes (antenatal care, normal delivery, contraception etc.).
- b) Undergo village attachment of at least one week duration to understand issues of community health along with exposure to village health centres, ASHA Sub Centres.
- c) Participate in Infectious Diseases Surveillance and Epidemic Management activities along with the medical officer.

12.6.2 GENERAL MEDICINE

GOAL:

The aim of teaching the undergraduate student in General Medicine is to impart such knowledge and skills that may enable him to diagnose and treat common medical illnesses. He/she shall acquire competence in clinical diagnosis based on history, physical examination and relevant laboratory investigations and institute appropriate line of management; this would include diseases common in tropics (parasitic, bacterial or viral infections, nutritional disorders, including dehydration and electrolyte disturbances) and various system illnesses.

A. An intern must be able to do without assistance and interpret the results of:

- i. the following laboratory investigations:
 - a) Blood: (Routine haematology smear and blood groups),
 - b) Urine: (Routine chemical and microscopic examination),
 - c) Stool: (for ova/cyst and occult blood),
 - d) Sputum and throat swab for gram stain or acid-fast stain, and
 - e) Cerebrospinal Fluid (CSF) for smear,
 - f) Electrocardiogram (ECG),
 - g) Glucometer recording of blood sugar,
 - h) routine radiographs of chest, abdomen, skull etc.
- ii. Perform independently the following:
 - a) diagnostic procedures
 - Proctoscopy,
 - Ophthalmoscopy/Otoscopy,
 - Indirect laryngoscopy.
 - b) Therapeutic procedures;
 - Urethral catheterization,
 - Insertion of Ryle's Tube,
 - Pleural, Ascitic fluid aspiration,
 - Cerebrospinal Fluid (CSF) aspiration,
 - Air way tube installation,
 - Oxygen administration etc.

B. An intern must have observed or preferably assisted at the following operations/ procedures:

- a) **Biopsy Procedures:** Liver, Kidney, Skin, Nerve, Lymph node, and muscle biopsy, Bone marrow aspiration, Biopsy of Malignant lesions on surface, nasal/nerve/skin smear for leprosy under supervision.

C. Skills that an intern should be able to perform under supervision:

- a) An intern should be familiar with lifesaving procedures, including use of aspirator, respirator and defibrillator, cardiac monitor, blood gas analyser.
- b) An intern should be able to advise about management and prognosis of acute & chronic illnesses like viral fever, gastroenteritis, hepatitis, pneumonias, myocardial infarction and angina, TIA and stroke, seizures, diabetes mellitus, hypertension renal and hepatic failure, thyroid disorders and hematological disorders. He should participate in counseling sessions for patients with non-communicable diseases and tuberculosis, HIV patients etc.
- c) Intern should be able to confirm death and demonstrate understanding of World Health Organisation cause of death reporting and data quality requirements.
- d) Intern should be able to demonstrate understanding of the coordination with local and national epidemic management plans.
- e) Intern shall be able to demonstrate prescribing skills and demonstrate awareness of pharmacovigilance, antibiotics policy, prescription audit and concept of essential medicines list.

12.6.3: PEDIATRICS:**GOAL:**

The aim of teaching the undergraduate student in Pediatrics is to impart such knowledge and skills that may enable him to diagnose and treat common childhood illnesses including neonatal disorders. He/she shall acquire competence for clinical diagnosis based on history, physical examination and relevant laboratory investigations and institute appropriate line of management; this would include diseases common in tropics (parasitic, bacterial or viral infections, nutritional disorders, including dehydration and electrolyte disturbances) and various system illnesses.

A. An intern must be able to do without assistance:

An intern shall be able to diagnose and manage common childhood disorders including neonatal disorders and acute emergencies, examining sick child making a record of information.

An intern shall perform:

- a) **diagnostic techniques:** blood collection (including from femoral vein and umbilical cord), drainage of abscess, collection of cerebrospinal, pleural and peritoneal fluids, suprapubic aspiration of urine.
- b) **techniques related to patient care:** immunization, perfusion techniques, nasogastric tube insertion, feeding procedures, tuberculin testing & breast-feeding counseling.
- c) **use of equipments:** vital monitoring, temperature monitoring, resuscitation at birth and care of children receiving intensive care.
- d) institute early management of common childhood disorders with special reference to pediatric dosage and oral rehydration therapy.

B. An intern must have observed or preferably assisted at the following operations/ procedures:

- a) screening of newborn babies and those with risk factors for any anomalies and steps for prevention in future; detect congenital abnormalities;
- b) recognise growth abnormalities; recognise anomalies of psychomotor development;
- c) assess nutritional and dietary status of infants and children and organize prevention, detection and follow up of deficiency disorders both at individual and community levels, such as:
 - protein-energy malnutrition
 - deficiencies of vitamins especially A, B, C and D;
 - Iron deficiency

C. Skills that an intern should be able to perform under supervision:

- a) An intern should be familiar with life-saving procedures, including use of aspirator, respirator, cardiac monitor, blood gas analyser.
- b) An intern should be able to advise about management and prognosis of acute & chronic illnesses like viral fever, gastroenteritis, hepatitis, pneumonias, congenital heart diseases, seizures, renal and hepatic diseases, thyroid disorders and hematological disorders. She/he should participate in counseling sessions with parents including HIV counseling.

12.6.4: GENERAL SURGERY**GOAL:**

The aim of teaching the undergraduate student in General Surgery is to impart such knowledge and skills that may enable him to diagnose and treat common surgical ailments. He/she shall have ability to diagnose and suspect with reasonable accuracy all acute and chronic surgical illnesses.

(A) THERAPEUTIC- An intern must perform or assist in:

- a) venesection or venous access
- b) tracheostomy and endotracheal intubation
- c) catheterization of patients with acute retention or trocar cystostomy
- d) drainage of superficial abscesses
- e) basic suturing of wound and wound management (including bandaging)
- f) biopsy of surface tumours
- g) perform vasectomy

(B) Skill that an intern should be able to perform under supervision:

- a) Advise about prognosis of acute & chronic surgical illnesses, head injury, trauma, burns and cancer. Counsel patients regarding the same.
- b) Advise about rehabilitation of patients after surgery and assist them for early recovery.
- c) Intern should be able to demonstrate understanding of World Health Organisation cause of death reporting and data quality requirements.
- d) Intern should be able to demonstrate understanding of the use of national and sub-national cause of death statistics.

(C) An intern must have observed or preferably assisted at the following operations/procedures:

- a) Resuscitation of critical patients
- b) Basic surgical procedures for major and minor surgical illnesses
- c) Wound dressings and application of splints
- d) Laparoscopic/ Minimally Invasive surgery
- e) Lymph node biopsy

12.6.5: CASUALTY:**GOAL:**

The aim of teaching the undergraduate student in casualty is to impart such knowledge and skills that may enable him/her to diagnose and treat common acute surgical /medical ailments. He/she shall have ability to diagnose and suspect, with reasonable accuracy, acute surgical illnesses including emergencies, resuscitate critically injured patient and a severely burned patient, control surface bleeding and manage open wounds and monitor and institute first-line management of patients of head, spine, chest, abdominal and pelvic injury as well as acute abdomen.

(A) THERAPEUTIC- An intern must perform or assist in:

- a) Identification of acute emergencies in various disciplines of medical practice,
- b) Management of acute anaphylactic shock,
- c) Management of peripheral-vascular failure and shock,
- d) Management of acute pulmonary edema and Left Ventricular Failure (LVF),
- e) Emergency management of drowning, poisoning and seizure,
- f) Emergency management of bronchial asthma and status asthmaticus,
- g) Emergency management of hyperpyrexia,

- h) Emergency management of comatose patients regarding airways, positioning, prevention of aspiration and injuries,
- i) Assessment and administering emergency management of burns,
- j) Assessing and implementing emergency management of various trauma victims,
- k) Identification of medico-legal cases and learn filling up of forms as well as complete other medico-legal formalities in cases of injury, poisoning, sexual offenses, intoxication and other unnatural conditions.

(B) Skill that an intern should be able to perform under supervision:

- a) Advise about prognosis of acute surgical illnesses, head injury, trauma and burns. Counsel patients regarding the same.

(C) An intern must have observed or preferably assisted at the following operations/ procedures:

- a) Resuscitation of critical patients
- b) documentation medico legal cases
- c) management of bleeding and application of splints;

12.6.6: OBSTETRICS AND GYNAECOLOGY

GOAL:

The aim of teaching the undergraduate student in Obstetrics & Gynaecology is to impart such knowledge and skills that may enable him to diagnose and manage antenatal and post natal follow up; manage labor and detect intrapartum emergencies; diagnose and treat common gynaecologic ailments.

(A) THERAPEUTIC- An intern must perform or assist in:

- a) Diagnosis of early pregnancy and provision of ante-natal care; antenatal pelvic assessment and detection of cephalopelvic disproportion,
- b) Diagnosis of pathology of pregnancy related to:
 - abortion
 - ectopic pregnancy
 - tumours complicating pregnancy
 - acute abdomen in early pregnancy
 - hyperemesis gravidarum,
- c) Detection of high risk pregnancy cases and give suitable advice e.g. PIH, hydramanios, antepartum haemorrhage, multiple pregnancies, abnormal presentations and intra-uterine growth retardation,
- d) Induction of labor and amniotomy under supervision,
- e) Induction of labor and amniotomy under supervision,
- f) Management of normal labor, detection of abnormalities, post-partum hemorrhage and repair of perennial tears,
- g) Assist in forceps delivery,
- h) Detection and management of abnormalities of lactation,
- i) Evaluation and prescription oral contraceptives with counseling,
- j) Per speculum, per vaginum and per rectal examination for detection of common congenital, inflammatory, neoplastic and traumatic conditions of vulva, vagina, uterus and ovaries,
- k) Medico-legal examination in Gynecology and Obstetrics.

(B) Skills that an intern should be able to perform under supervision:

- a) Dilatation and curettage and fractional curettage,
- b) Endometrial biopsy,
- c) Endometrial aspiration,
- d) Pap smear collection,
- e) Intra Uterine Contraceptive Device (IUCD) insertion,
- f) Minilap ligation,
- g) Urethral catheterization,

- h) Suture removal in postoperative cases,
- i) Cervical punch biopsy.

(C) An intern must have observed or preferably assisted at the following operations/ procedures:

- a) Major abdominal and vaginal surgery cases,
- b) Second trimester Medical Termination of Pregnancy (MTP) procedures
e.g. Emcredyl Prostaglandin instillations, Caesarean section.

12.6.7 OTORHINOLARYNGOLOGY (ENT)

GOAL:

The aim of teaching the undergraduate student in ophthalmology is to impart such knowledge and skills that may enable him to diagnose and treat common otorhinolaryngological conditions such as ear pain, foreign bodies and acquire ability for a comprehensive diagnosis of common Ear, Nose and Throat (ENT) diseases including emergencies and malignant neoplasms of the head and neck.

(A) THERAPEUTIC- An intern must perform or assist in:

- a) Ear syringing, antrum puncture and packing of the nose for epistaxis,
- b) Nasal douching and packing of the external canal,
- c) Removing foreign bodies from nose and ear,
- d) Observing or assisting in various endoscopic procedures and tracheostomy.

(B) Skill that an intern should be able to perform under supervision:

- a) Intern shall have participated as a team member in the diagnosis of various ENT- related diseases and be aware of National programme on prevention of deafness,
- b) Intern shall acquire knowledge of various ENT related rehabilitative programmes.

(C) An intern must have observed or preferably assisted at the following operations/ procedures:

- a) Intern shall acquire skills in the use of head mirror, otoscope and indirect laryngoscopy and first line of management of common Ear Nose and Throat (ENT) problems.

12.6.8 OPHTHALMOLOGY

GOAL:

The aim of teaching the undergraduate student in ophthalmology is to impart such knowledge and skills that may enable him to diagnose and treat common ophthalmological conditions such as Trauma, Acute conjunctivitis, allergic conjunctivitis, xerosis, entropion, corneal ulcer, iridocyclitis, myopia, hypermetropia, cataract, glaucoma, ocular injury and sudden loss of vision.

(A) THERAPEUTIC- An intern must perform or assist in:

- a) Subconjunctival injection
- b) Ocular bandaging
- c) Removal of concretions
- d) Epilation and electrolysis
- e) Corneal foreign body removal
- f) Cauterization of corneal ulcers
- g) Chalazion removal
- h) Entropion correction
- i) Suturing conjunctival tears
- j) Lids repair
- k) Glaucoma surgery (assisted)
- l) Enucleation of eye in cadaver.

(B) Skill that an intern should be able to perform under supervision:

- (a) Advise regarding methods for rehabilitation of the blind.

(C) An intern must have observed or preferably assisted at the following operations/ procedures:

- a) Assessment of refractive errors and advise its correction,
- b) Diagnose ocular changes in common systemic disorders,
- c) Perform investigative procedures such as tonometry, syringing, direct ophthalmoscopy, subjective refraction and fluorescein staining of cornea.

12.6.9 ORTHOPAEDICS**GOAL:**

The aim of teaching the undergraduate student in Orthopaedics and Physical Medicine and Rehabilitation is to impart such knowledge and skills that may enable him to diagnose and treat common ailments. He/she shall have ability to diagnose and suspect presence of fracture, dislocation, actual osteomyelitis, acute poliomyelitis and common congenital deformities such as congenital talipes equinovarus (CTEV) and dislocation of hip (CDH).

(A) THERAPEUTIC- An intern must assist in:

- a) Splinting (plaster slab) for the purpose of emergency splintage, definitive splintage and post-operative splintage and application of Thomas splint,
- b) Manual reduction of common fractures – phalangeal, metacarpal, metatarsal and Colles' fracture,
- c) Manual reduction of common dislocations – interphalangeal, metacarpophalangeal, elbow and shoulder dislocations,
- d) Plaster cast application for undisplaced fractures of arm, fore arm, leg and ankle,
- e) Emergency care of a multiple injury patient,
- f) Transport and bed care of spinal cord injury patients.

(B) Skill that an intern should be able to perform under supervision:

- a) Advise about prognosis of poliomyelitis, cerebral palsy, CTEV and CDH,
- b) Advise about rehabilitation of amputees and mutilating traumatic and leprosy deformities of hand.

(C) An intern must have observed or preferably assisted at the following operations:

- a) Drainage for acute osteomyelitis,
- b) Sequestrectomy in chronic osteomyelitis,
- c) Application of external fixation,
- d) Internal fixation of fractures of long bones.

12.6.10 DERMATOLOGY VENEREOLOGY & LEPROSY**GOAL:**

The aim of teaching the undergraduate student in Dermatology Venereology & Leprosy is to impart such knowledge and skills that may enable him to diagnose and treat common dermatological infections and leprosy. He/she shall acquire competence for clinical diagnosis based on history, physical examination and relevant laboratory investigations and institute appropriate line of management; this would include diseases common in tropics (parasitic, bacterial or viral infections, and cutaneous manifestations of systemic illnesses).

A. THERAPEUTIC- At the end of internship an intern must be able to:

- a) Conduct proper clinical examination; elicit and interpret physical findings, and diagnose common disorders and emergencies,

- b) Perform simple, routine investigative procedures for making bedside diagnosis, specially the examination of scraping for fungus, preparation of slit smears and staining for AFB for leprosy patient and for STD cases,
- c) Manage common diseases recognizing the need for referral for specialized care in case of inappropriateness of therapeutic response.

B. An intern must have observed or preferably assisted at the following operations/ procedures:

- a) Skin biopsy for diagnostic purpose

12.6.11 PSYCHIATRY

GOAL:

The aim of teaching the undergraduate student in Psychiatry is to impart such knowledge and skills that may enable him to diagnose and treat common psychiatric illnesses. He/she shall acquire competence for clinical diagnosis based on history, physical examination and relevant laboratory investigations and institute appropriate line of management. He/she should also be able to recognize the behavioural manifestations of systemic illnesses.

A. THERAPEUTIC- An intern must perform or assist in:

- a) Diagnose and manage common psychiatric disorders,
- b) Identify and manage psychological reactions,
- c) Diagnose and manage behavioural disorders in medical and surgical patients.

B. An intern must have observed or preferably assisted at the following operations/ procedures:

- a) ECT administration,
- b) Therapeutic counseling and follow-up.

12.6.12 RESPIRATORY MEDICINE

GOAL:

The aim of teaching the undergraduate student in Respiratory Medicine is to impart such knowledge and skills that may enable him to diagnose and treat common respiratory illnesses. He/she shall acquire competence for clinical diagnosis based on history, physical examination and relevant laboratory investigations and institute appropriate line of management.

A. THERAPEUTIC - An intern must perform or assist in:

- a) diagnosing and managing common respiratory disorders and emergencies,
- b) simple, routine investigative procedures required for making bed side diagnosis, especially sputum collection, examination for etiological organism like AFB, interpretation of chest X-rays and respiratory function tests,
- c) interpreting and managing various blood gases and pH abnormalities in various illnesses.

B. An intern must have observed or preferably assisted at the following operations/ procedures:

- a) Laryngoscopy,
- b) Pleural aspiration, respiratory physiotherapy, laryngeal intubation and pneumo-thoracic drainage aspiration,
- c) Therapeutic counseling and follow up.

12.6.13 ANAESTHESIOLOGY

GOAL:

The aim of teaching the undergraduate student in anaesthesia is to impart such knowledge and skills that may enable him to understand principles of anaesthesia and recognize risk and complications of anaesthesia. At the end of internship, graduate should be able to perform cardio-pulmonary resuscitation correctly, including recognition of cardiac arrest.

(A) THERAPEUTIC- An intern must perform or assist in:

- a) Pre-anaesthetic checkup and prescribe pre-anaesthetic medications,

- b) Venepuncture and set up intravenous drip,
- c) Laryngoscopy and endotracheal intubation,
- d) Lumbar puncture, spinal anaesthesia and simple nerve blocks,
- e) Simple general anaesthetic procedures under supervision,
- f) Monitor patients during anaesthesia and in the post-operative period,
- g) Maintain anaesthetic records,
- h) Perform cardio-pulmonary resuscitation correctly, including recognition of cardiac arrest.

(B) Skill that an intern should be able to perform under supervision:

- a) Counseling and advise regarding various methods of anaesthesia,
- b) Recognise and manage problems associated with emergency anaesthesia,
- c) Recognise and treat complications in the post-operative period.

(C) An intern must have observed or preferably assisted at the following operations/ procedures:

- a) Anaesthesia for major and minor surgical and other procedures;

12.6.14 RADIODIAGNOSIS

GOAL:

The aim of teaching the undergraduate student in radiodiagnosis is to impart such knowledge and skills that may enable him to understand principles of imageology and recognize risk and complications of radiologic procedures and the need for protective techniques. At the end of internship, graduate should be able to counsel and prepare patients for various radiologic procedures.

An intern must acquire competency in:

- a) Identifying and diagnosing acute abdominal conditions clinically and choose appropriate imaging modality for diagnosis,
- b) Identifying and diagnosing acute traumatic conditions in bones and skull using X rays / CT Scans with emphasis on fractures and head injuries,
- c) Recognising basic hazards and precautions in radio-diagnostic practices specially related to pregnancy,
- d) Demonstrating awareness of the various laws like PC PNDT Act.

12.6.15 PHYSICAL MEDICINE AND REHABILITATION

GOAL:

The aim of teaching the undergraduate student in Physical Medicine & Rehabilitation is to impart such knowledge and skills that may enable him to diagnose and treat common rheumatologic, orthopedic and neurologic illnesses requiring physical treatment. He/she shall acquire competence for clinical diagnosis based on history, physical examination and relevant laboratory investigations and institute appropriate line of management.

A. THERAPEUTIC- An intern must perform or assist in:

- a) Diagnosing and managing with competence clinical diagnosis and management based on detailed history and assessment of common disabling conditions like poliomyelitis, cerebral palsy, hemiplegia, paraplegia, amputations etc.
- b) Participation as a team member in total rehabilitation including appropriate follow up of common disabling conditions,
- c) Procedures of fabrication and repair of artificial limbs and appliances.

B. An intern must have observed or preferably assisted at the following operations/ procedures:

- a) use of self-help devices and splints and mobility aids
- b) accessibility problems and home making for disabled
- c) simple exercise therapy in common conditions like prevention of deformity in polio, stump exercise in an amputee etc.
- d) Therapeutic counselling and follow up

12.6.16 FORENSIC MEDICINE AND TOXICOLOGY**GOAL:**

The aim of teaching the undergraduate student in Forensic Medicine is to impart such knowledge and skills that may enable him to manage common medico-legal problems in day to day practice. He/she shall acquire competence for post mortem diagnosis based on history, physical examination and relevant observations during autopsy.

A. An intern must perform or assist in:

- a) Identifying and documenting medico-legal problems in a hospital and general practice,
- b) Identifying the medico-legal responsibilities of a medical man in various hospital situations,
- c) Diagnosing and managing with competence basic poisoning conditions in the community,
- d) Diagnosing and managing with competence and documentation in cases of sexual assault,
- e) Preparing medico-legal reports in various medico legal situations.

B. An intern must have observed or preferably assisted at the following operations/ procedures, as given in Table 11:

- a) Various medico legal / post-mortem procedures and formalities during their performance by police.

Table 11: Certifiable Procedural Skills:

A Comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) – Indian Medical Graduate

Specialty	Procedure
General Medicine	<ul style="list-style-type: none"> • Venipuncture (I) • Intramuscular injection(I) • Intradermal injection (D) • Subcutaneous injection(I) • Intra Venous (IV) injection (I) • Setting up IV infusion and calculating drip rate (I) • Blood transfusion (O) • Urinary catheterization (D) • Basic life support (D) • Oxygen therapy (I) • Aerosol therapy / nebulization (I) • Ryle's tube insertion (D) • Lumbar puncture (O) • Pleural and ascitic aspiration (O) • Cardiac resuscitation (D) • Peripheral blood smear interpretation (I) • Bedside urine analysis (D)
General Surgery	<ul style="list-style-type: none"> • Basic suturing (I) • Basic wound care (I)

	<ul style="list-style-type: none"> • Basic bandaging (I) • Incision and drainage of superficial abscess (I) • Early management of trauma (I) and trauma life support (D)
Orthopedics	<ul style="list-style-type: none"> • Application of basic splints and slings (I) • Basic fracture and dislocation management (O) • Compression bandage (I)
Gynecology	<ul style="list-style-type: none"> • Per Speculum (PS) and Per Vaginal (PV) examination (I) • Visual Inspection of Cervix with Acetic Acid (VIA) (O) • Pap Smear sample collection & interpretation (I) • Intra- Uterine Contraceptive Device (IUCD) insertion & removal (I)
Obstetrics	<ul style="list-style-type: none"> • Obstetric examination (I) • Episiotomy (I) • Normal labor and delivery (including partogram) (I)
Pediatrics	<ul style="list-style-type: none"> • Neonatal resuscitation (D) • Setting up Pediatric IV infusion and calculating drip rate (I) • Setting up Pediatric Intraosseous line (O)
Forensic Medicine	<ul style="list-style-type: none"> • Documentation and certification of trauma (I) • Diagnosis and certification of death (D) • Legal documentation related to emergency cases (D) • Certification of medical-legal cases e.g. Age estimation, sexual assault etc. (D) • Establishing communication in medico-legal cases with police, public health authorities, other concerned departments, etc (D)
Otorhinolaryngology	<ul style="list-style-type: none"> • Anterior nasal packing (D) • Otoscopy (I)
Ophthalmology	<ul style="list-style-type: none"> • Visual acuity testing (I) • Digital tonometry (D) • Indirect ophthalmoscopy (O) • Epilation (O) • Eye irrigation (I) • Instillation of eye medication (I) • Ocular bandaging (I)
Dermatology	<ul style="list-style-type: none"> • Slit skin smear for leprosy (O) • Skin biopsy (O) • Gram's stained smear interpretation(I) • KOH examination of scrapings for fungus (D) • Dark ground illumination (O) • Tissue smear (O) • Cautery - Chemical and electrical (O)

- I- Independently performed on patients,
- O- Observed in patients or on simulations,
- D- Demonstration on patients or simulations and performance under supervision in patients

Certification of Skills: Any faculty member of concerned department can certify skills. For common procedures, the certifying faculty may be decided locally.

[ADVT.-III/4/Exty./277/19]

Dr. R. K. VATS, Secy. General

Foot Note: The Principal Regulations namely, “Graduate Medical Education Regulations, 1997” were published in Part – III, Section (4) of the Gazette of India vide Medical Council of India notification dated 4th March, 1997, and amended vide MCI notifications dated 29/05/1999, 02/07/2002, 30/09/2003, 16/10/2003, 01/03/2004, 20/10/2008, 15/12/2008, 22/12/2008, 25/03/2009, 19/04/2010, 07/10/2010, 21/12/2010, 15/02/2012, 29/12/2015, 05/08/2016, 21/09/2016, 10/03/2017, 04/07/2017, 23/01/2018, 06/02/2018, 21/05/2018, 05/02/2019 & 14/05/2019.



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Medical Education Program**

2019



**Medical Council of India
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FOREWORD

Medical education and educators have the responsibility of training the custodians of the health of the nation. The MBBS program is the foundation of the health delivery system in the country creating health care providers who need to provide not only adequate, appropriate and cost effective care but also need to be leaders of their community. Through the program it is expected that students will be able to fulfill their professional and personal goals and aspirations in addition to the expectations of the profession, society and nation. The course can be demanding and requires the learner to respond to the challenges of continued learning and improvement. Besides acquisition of new skills, learner is required to provide leadership in challenging situations and demonstrate exemplary professional and humanistic attributes. Medical students come from varied backgrounds and require a bridge that will transition from school to a professional course.

The Board of Governors in supersession of Medical Council of India has therefore created a Foundation Course that will not only serve as a bridge for the student into the MBBS program but will also orient the student to the knowledge, skills and attitude required of him or her during the program. The Foundation Course is envisaged to be a month long program with continued support provided through the year for students to acquire language, communication and computer skills. Particular emphasis on professional and ethical behaviour is placed in the Foundation Course; this dovetails into the AETCOM module - one of the flagship programs of the MBBS curriculum.

This booklet has been developed by experts and is meant to be used as a program guide for the Foundation Course. It outlines the outcomes that are intended to be achieved; it also incorporates examples of the Foundation Course program derived from best practices from around the country. Institutions are encouraged to develop their own Foundation Course that addresses local needs and brings out the institutional flavour while aligning the whole program to the outcomes identified in the booklet. The Medical Council of India also welcomes institutions to share their learning feedback and best practices that will enhance the value and structure of the program in the coming years.

The Council is grateful to the experts who have developed this booklet for their time and effort. Appreciation is also due to the Academic Cell and the members of expert group headed by Dr. Avinash Supe under whose guidance the course and the competency based curriculum has been developed and is being progressively rolled out in the country.

(Dr. V. K. Paul)



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महासचिव

Dr. R.K. Vats

Secretary General



सत्यमेव जयते

भारतीय आयुर्विज्ञान परिषद

के अधिक्रमण में शासी बोर्ड

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IN SUPERSESSION OF**

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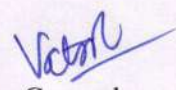
Foreword



India has the unique distinction of having the largest number of medical schools since it has taken the responsibility to create a large pool of health educators who would be responsible to train the young Indian Medical Graduate joining the undergraduate medical education program. The MBBS program is the foundation of the health delivery system in the country, creating health care providers who need to provide not only adequate, appropriate and cost effective health care but also need to be leaders of their community, in due course. Medical students in India come from diverse backgrounds in terms of geography, culture, language, economy, social construct, medium of instruction and education Boards. The MBBS course is a highly challenging program which prepares the student for a lifetime of altruistic care, continued learning, discipline, professional and ethical behavior and respect for human interactions, systems and processes. It is therefore necessary that a smooth transition of the high school student to this challenging learning stream is ensured and to achieve this, a Foundation Course at the beginning of the MBBS program was considered necessary.

This booklet has been developed by Council-nominated experts and is meant to be used as a program guide for the Foundation Course; institutions are encouraged to develop their own format of the Foundation Course that addresses local needs while aligning the whole program to the outcomes identified in the booklet. The Foundation Course is the forerunner to the roll out of the competency based UG curriculum across the country under the aegis of the Medical Council of India & Board of Governors.

The Council is grateful to the Expert group who have developed this booklet for their valuable time, knowledge, expertise and effort ably supported by the Academic Cell of the Council.


Secretary General

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Curriculum Implementation Support Program

Module – 1

FOUNDATION COURSE

FOUNDATION COURSE

Objective of the document

The objective of this document is to facilitate institutions and faculty in implementing a **Foundation Course** of one-month duration at the beginning of the MBBS course that will sensitise the fresh medical student with the required knowledge and skills that will assist him/her in acclimatising to the new professional environment which would be his/her milieu for a life-long career in the medical profession. The Foundation Course will also provide a sound foundation for learning in the MBBS course and later in their professional career. While the institutions are expected to abide by the general guidelines, local changes can be made depending on the context and requirements.

1. Glossary of terms used in the document

Orientation: Refers to the awareness created in new students with respect to place (learning environment and facility), time, teaching schedules and timetables, processes (Rules, Regulations, policies and procedures), personnel (faculty, staff, and mentors), patients and their relatives.

Skills Module: Refers to basic skills that are considered important for all health care personnel who deal with patients and requires students to be trained in prior to entering patient care areas.

Enhancement skills: Refers to those skills which are needed to enable students from diverse backgrounds (including different Boards, language of instruction, culture and varied degrees of technological exposure) to appreciate and accommodate the similarities and differences in medical practice and to feel at par with each other.

Sports and extra-curricular activities: Refers to sports and extra - curricular activities permitted within the time schedule.

Professionalism and ethics: Professionalism defines a set of values and behaviour that build the trust that a patient has in his/ her doctor. Ethics are principles that govern the behaviour of doctors. Professional competence, effective communication and ethics are the three founding principles of Professionalism.

2. Introduction

Medical education in India requires training in a wide spectrum of domains that involves exposure to human interactions and interpersonal relationships in various settings including hospital, community, clinics etc. The training is intense and demands great commitment, resilience and lifelong learning. Students enter a new environment in medical college at around 17 years of age directly from school which can be challenging. Therefore, it is desirable to create a period of acclimatisation and familiarization to the new environment. This would include an introduction to the course structure, learning methods, technology usage, and peer interactions which would facilitate their smooth transition from high school to medical college.

This is proposed to be achieved through a dedicated one month exclusive “Foundation Course”, at the beginning of the MBBS course, to orient and sensitize the student to the various identified areas. Many of these identified areas will need to be followed up by more focused outcome-based sessions at various stages in the MBBS course. This will be achieved through activities/small courses integrated throughout the course which will be like the thread running through a garland. At appropriate stages throughout the course, emphasis will be laid on the various essential roles of the “Indian Medical Graduate”.

3. Purpose

The purpose of the Foundation Course include:

- a) Orienting the students to all aspects of the medical college environment.
- b) Equipping them with certain basic, but important, skills required for patient care and enhancing their communication, language, computer and learning skills.
- c) Providing opportunity for peer and faculty interactions and an overall sensitisation to the various learning methodologies.

4. Context from proposed GMER 2019 (Graduate Medical Education Regulations)

9.1. Foundation Course

Goal: The goal of the Foundation Course is to prepare a learner to study Medicine effectively. It will be of one-month duration after admission (see Table 1).

9.1.1 Objectives: The objectives are to:

(i) Orient the learner to:

- a. The medical profession and the physician's role in society
- b. The MBBS programme
- c. Alternate health systems in the country and history of medicine
- d. Medical ethics, attitudes and professionalism
- e. Health care system and its delivery
- f. National health priorities and policies
- g. Universal precautions and vaccinations
- h. Patient safety and biohazard safety
- i. Principles of primary care (general and community-based care)
- j. The academic ambience

(ii) Enable the learner to acquire enhanced skills in:

- a. Language
- b. Interpersonal relationships
- c. Communication
- d. Learning including self-directed learning
- e. Time management
- f. Stress management
- g. Use of information technology

(iii) Train the learner to provide:

- a. First-aid
- b. Basic life support

9.1.2 In addition to the above, learners may be enrolled in one of the following programmes which will be run concurrently:

- (i) Local language programme
- (ii) English language programme

(iii) Computer skills

These may be done in the last hours of the day for the duration of the Foundation Course.

9.1.3 These sessions must be as interactive as possible.

5. Major Components

The major components of the Foundation Course include:

- **Orientation Program:** This includes orienting students to all the components mentioned in GMER 9.1 and should be completed as one block in the first week.
- **Skills Module (Basic):** This involves skill sessions such as Basic Life Support, First Aid, Universal precautions and biomedical waste and safety management that students need to be trained prior to entering the patient care areas.
- **Field visit to Community and Primary Health Centre:** These visits provide orientation to the care delivery through community and primary health centres, and include interaction with health care workers, patients and their families.
- **Professional development including Ethics:** This is an introduction to the concept of Professionalism and Ethics. This component will provide students with understanding that clinical competence, communication skills and sound ethical principles are the foundation of professionalism. It will also provide understanding of the consequences of unethical and unprofessional behaviour, value of honesty, integrity and respect in all interactions. Professional attributes such as accountability, altruism, pursuit of excellence, empathy, compassion and humanism will be addressed. It should inculcate respect and sensitivity for gender, background, culture, regional and language diversities. It should also include respect towards the differently abled persons. It introduces the students to the basic concept of compassionate care and functioning as a part of a health care team. It sensitises students to “learning” as a behaviour and to the appropriate methods of learning.

Orientation to Professionalism and Ethics will continue as the AETCOM module after the first month of the MBBS course and throughout the first year, with reinforcement of the various components introduced.

- **Sports and Extracurricular activities:** These have been included, in order to demonstrate the importance of work-life balance in a demanding profession, and provide an opportunity for students to have compulsory physical activity and to showcase their talents. The Foundation Course should have compulsory 4 hours

per week for sports and 2 hours per week for extracurricular activities, adding up to 22 hours.

- **Enhancement of Language / Computer skills / Learning Skills:** These are sessions to provide opportunity for the students from diverse background and language competence to undergo training for speaking and writing English, fluency in local language and basic computer skills. The students should be sensitized to various learning methodologies such as small group discussions, skills lab, simulations, documentation and concept of Self-Directed learning.

Structure of the program for students

Table.1

Subjects/ Contents	Total Teaching hours
Orientation ¹	30
Skills Module ²	35
Field visit to Community Health Centre	8
Professional Development including ethics	40
Sports and Extracurricular activities	22
Enhancement of language/ computer skills ³	40
Total teaching hours	175

1. Orientation course will be completed as single block in first week and will contain elements outlined in the section 9.1.1 of the GMR
2. Skills modules will contain elements outlined in the section 9.1.1 of the GMR
3. Based on perceived needs the students may choose any or both of language enhancements (English or local spoken or both) and computer skills. This should be available longitudinally throughout the duration of the Foundation Course and afterwards.

Foundation Course will be organized by co-ordinator appointed by Dean of the college and will be under supervision by the heads of preclinical departments.

Foundation Course Modules

1. Orientation Module	Total hours: 30
1A. Orientation Module: Introduction to institution / campus / facilities	
1B. Orientation Module: Role of doctors in the society	
1C. Orientation Module: History of Medicine and alternate systems	
1D. Orientation Module: IMG roles / overview MBBS curriculum various career pathways	
1E. Orientation Module : Principles of family practice	
2. Skills Module:	Total hours: 35
2A.Skills Module: First Aid	
2B.Skills Module: BLS	
2C.Skills Module: Universal precautions	
2D.Skills Module: Waste management	
2E.Skills Module: Immunization	
2F.Skills Module: Documentation	
3. Community orientation module	Total hours: 8
3A. Community Orientation Module: National Health goals and policies/ health Care systems/ community health	
3B. Community Orientation Module: Interactions with patients and families, Communities.	
4. Professional Development and Ethics Module (P&E)	Total hours: 40
4A. (P&E): Concept of Professionalism and Ethics	
4B. (P&E): White coat Ceremony	
4C. (P&E): Professional behaviour and altruistic behaviour	
4D. (P&E): Working in a health care team	
4E. (P&E): Disability competencies	
4F. (P&E): Cultural competence	
4G. (P&E): Stress management	
4H. (P&E): Time management	
4I. (P&E): Interpersonal relationship	
4J. (P&E): Learning	
5. Enhancement of Language and Computer Skills Module	Total hours:40
5A.Enhancement of Language and Computer Skills Module: Communication	
5B.Enhancement of Language and Computer Skills Module: Local Language training	
5C. Enhancement of Language and Computer Skills Module: English Language training	
5D.Enhancement of Language and Computer Skills Module: Computer Skills training	
6. Sports and extracurricular activities:	Total hours: 22

Sports should be for a mandatory 4 hours per week and extra-curricular activities 2 hours per week, subject to a total of 22 hours.

6. Learning outcomes

Code	COMPETENCY The student should be able to:	Domain	K/KH/ SH/P
1.	Topic : ORIENTATION		
FC 1.1	Demonstrate understanding of the role of doctors in the society and their impact	A	KH
FC 1.2	Demonstrate understanding of the Roles of an Indian Medical Graduate and relate it to the societal impact	A	KH
FC 1.3	Discuss and appreciate the expectations of the students from the Nation, society, Institution, peers, colleagues and patients and vice versa	A	KH
FC 1.4	Demonstrate understanding of the rules and regulations of the institution	A	SH
FC 1.5	Orient themselves to the college campus, facilities, faculty, administrative structure, support systems and processes of the institution	A	KH
FC 1.6	Discuss the various career pathways and opportunities for personal growth	A	KH
FC 1.7	Demonstrate understanding of the overview of MBBS curriculum, its structure and outcomes and its relation to the career pathways	K	KH
FC 1.8	Demonstrate understanding the role of physician at various levels of Health care delivery	K	KH
FC 1.9	Discuss the principles of family practice	K	KH
FC 1.10	Demonstrate awareness of the History of Medicine and alternate systems of Medicine	K	K
2	Topic : Skills		
FC 2.1	Perform Basic Life support in Skills lab	S	SH
FC 2.2	Perform First Aid in a simulated environment	S	SH
FC 2.3	Follow bio-safety and universal precautions	S	SH
FC 2.4	Demonstrate handling and safe disposal of Biohazardous materials in a simulated environment	S	SH
FC 2.5	Demonstrate proper hand washing and use of personal protective equipment	S	SH

FC 2.6	Demonstrate appropriate response to needle stick injuries	S	SH
FC 2.7	Demonstrate Biomedical Waste segregation (BMW), observe and explain the process of management of BMW in accordance with National Regulations	S	SH
FC 2.8	Discuss the Immunization requirements of Health care professionals	K	KH
FC 2.9	Demonstrate awareness of significance of documentation in patient care and the proper method of documentation	S	SH
3	Community Orientation and field visits		
FC 3.1	Demonstrate understanding of the National Health Goals and Policies	K	KH
FC 3.2	Discuss the national health scenario, demographic, socio-cultural and epidemiological issues	K	KH
FC 3.3	Demonstrate understanding of the health care systems in India with reference to primary, secondary and tertiary level care	K	KH
FC 3.4	Discuss the basic principles of community health and its impact on health and disease	S	SH
FC 3.5	Demonstrate understanding of the structure and functioning of the community health center	K	KH
FC 3.6	Demonstrate ability to obtain patient experiences through patient and family interactions and relate these experiences to impact of environment and diseases.	S	SH
4	Professional Development including Ethics		
FC 4.1	Demonstrate understanding of the concept of Professionalism and ethics among health care professionals and discuss the consequences of unprofessional and unethical behavior	S	KH
FC 4.2	Demonstrate understanding that compassion, altruism, integrity, duty, responsibility and trust are the core values that defines the nature of the physician's work	K	KH
FC 4.3	Discuss the value, honesty and respect during interaction with peers, seniors, faculty, other health care workers and patients	S	KH

FC 4.4	Discuss the significance of working in a health care team	S	KH
FC 4.5	Discuss disability competencies	K	KH
FC 4.6	Demonstrate understanding and respect of cultural diversities and interact with those with different cultural values	K/A	KH
FC 4.7	Discuss the significance and methods of stress management and risk taking behavior.	K	KH
FC 4.8	Understand the role of Yoga and meditation in personal health	S	S
FC 4.9	Discuss the significance and appropriate ways of Time management	K	KH
FC 4.10	Demonstrate understanding of importance of interpersonal relationship while working in a health care team	S	KH
FC 4.11	Understand the role of mentoring	S	KH
FC 4.12	Demonstrates understanding of the process of group learning and group dynamics	S	KH
FC 4.13	Comprehend the learning pedagogy and its role in learning skills	S	KH
FC 4.14	Demonstrates understanding of different methods of self-directed learning	S	KH
FC 4.15	Understand collaborative learning	S	KH
5	Enhancement skills - Communication and language skills		
FC 5.1	Demonstrate ability to communicate with patient and families, be aware of barriers to communication and appropriate ways to respond	C	SH
FC 5.2	Demonstrate use of local language in patient and peer interactions	C	SH
FC 5.3	Demonstrate ability to communicate and learn in English	C	SH
FC 5.4	Demonstrate basic computer skills	S	SH
FC 5.5	Demonstrate ability for accessing online resources	S	SH

7. Formative and Internal Assessment

- Foundation Course is compulsory and an attendance of 75% will be mandatory
- Feedback, comments and/or grades about the student's performance by the faculty mentor can be documented particularly for the skills training
- The performance of the students in the Foundation Course will **NOT** contribute towards internal assessment marks.
- Student's feedback about the Foundation Course also needs to be documented in a structured format. This will help in gathering student's perceptions about various aspects of Foundation Course and help in program evaluation and refinement.

8. Capacity Building for Faculty

The components of the Foundation Course are multifarious and will require resource faculty from various disciplines. Many of these identified areas of the Foundation Course will need to be followed up by more focused outcome-based sessions at various stages in the course of MBBS through activities spirally integrated throughout the course. The objectives of each of the sessions in the Foundation Course are specific and the resource faculty need to understand not only the content, context and specific objectives of these sessions but also the approach and need for an interactive teaching learning methodology. The Dean/Principal of every medical college will ensure that adequate faculty training and resources are made available for implementation of the Foundation Course.

9. Curricular Governance and Evaluation

The Dean/ Principal in each medical college will identify **a faculty coordinator from preclinical departments** for conduct of the Foundation Course.

The faculty coordinator will identify resource faculty for the various sessions from within and outside the institution and coordinate the training of the resource faculty, the implementation of the program and the evaluation of the program.

Program evaluation report from faculty and students will be submitted to curriculum committee within four weeks of completion of Foundation Course.

Annexures

(The following are examples of schedules and lesson plans that may be used for Foundation Course. Institutions are encouraged to make their own plan tailored to their local needs and aligned to proposed outcomes)

		Mon	Tue	Wed	Thu	Fri	Sat	Sun
Week 1	Morning	1A	1B	1C	1D	1E	2F	
	After noon	1A	1B	1C	1D	1E		
			6A	6A	6A	6A		
Week 2	Morning	2B	2A	2C	2D	2E	6B	
	After noon	2B	2A	2C	2D	2E		
			6A	6A	6A	6A		
Week 3	Morning	3A	4A	4C	4D	4G	4F	
							6B	
	After noon	3B	4A	4C	4D	4E		
			6A	6A	6A	6A		
Week 4	Morning	4H	4J	5A	5D	5D	5B	
							6B	
	After noon	4I	5B	5B	5B	5B		
			6A	6A	6A	6A		
Week 5	Morning	5D	5C	5C				
	After noon	5B	5C	4B				

Sample lesson plans

1. Orientation

The purpose of the Orientation Module is to provide the new MBBS student a greater understanding of the medical profession in a historical, local and national context, a knowledge of the institution in which he/she will spend the next six years, and an idea of his/her role as an MBBS student.

1A Orientation Module: Introduction to institution / campus / facilities

The medical students at the very beginning of their course should have a clear understanding of the goals of their training, the expectations of the nation, the vision and mission of the institution, Rules and Regulations of the organisation. They must also be provided an orientation to the campus and the facilities available.

FC 1.2	Demonstrate understanding of the Roles of an Indian Medical Graduate and relate it to the societal impact	A	KH
FC 1.3	Discuss and appreciate the expectations of the students from the nation, society, Institution, peers, colleagues and patients and vice versa	A	KH
FC 1.4	Demonstrate understanding of the rules and regulations of the institution	A	SH
FC 1.5	Orient themselves to the college campus, facilities, faculty, administrative structure, support systems and processes of the institution	A	KH

Objectives:

At the end of the session the students should be able to:

- Explain the Roles of the Indian Medical Graduate
- Discuss their expectations from the Nation, institution, society, colleagues and peers and vice versa
- Understand the Rules and Regulations of the Institution

- Familiarise themselves with the college campus, facilities, administrative structure, support systems and processes of the institution

Methodology

No.	Content area	Methodology	Time
1	Welcome and Introduction by institutional heads	Inspiring talk... to the new MBBS graduates and their parents	2 hours
2	Vision / Mission of the institution		
3	Roles of an Indian Medical Graduate		
4	Expectation of the students from Nation, Society, Institutions, colleagues and peers	Overview lecture/ interactive discussion	1 hour
4	Rules and Regulations of the institution	Overview lecture/ interactive discussion	1 hour
5	Orientation to the college / campus / facilities	<ul style="list-style-type: none"> Walk through the college including lecture halls, common rooms, preclinical departments, office of the Dean and administration, library, food facilities, security facilities, auditorium – mini talks at important facilities regarding Rules and Regulations 	4 hours
6	Introduction to faculty / mentors	Interactive session with faculty mentors and peers	2 hours

Assessment: Open feedback at the end of the Foundation Course

1B. Orientation Module: Role of doctors in the society

It is important for new entrants to the new MBBS program to have a clear understanding of the roles and responsibilities of a doctor in society and the expectations from society, patients and the profession. It is important to sensitise and inspire students to the wider roles of physicians in society beyond patient-doctor interaction.

FC 1.1	Demonstrate understanding of the role of the doctors in the society and their impact	A	KH
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Objectives:

At the end of this session, the student will be able to:

1. Appreciate the wider role of physicians in society beyond the physician – patient interaction
2. Reflection their own potential roles in society

At the end of this session, the moderators will be able to:

1. Better understand the attitude of students who join the medical course regarding their perceptions of the social role of physicians
2. Review the session and make plans for:
 - a. Further sessions
 - b. The session next year

Methodology

No	Sub session	Methods	Requirements	Time
1	Introduction	Moderators, observers and other participants		10 minutes
2	Role of doctors buzz groups	<ul style="list-style-type: none"> • Create buzz groups of 10 students each • Ask each group to list, discuss and note down on separate cards the various roles of doctors • After 10 minutes, ask one student from each batch to bring up their cards to put on four different posters which will be labelled at the back as – diagnostic role, treating role, physician-patient interactive roles, societal role. ▪ The students will be blinded to labels at the back of poster. The moderator will help them separate and place their cards. • At the end, the entire group will view the posters – the moderator will turn the posters around to show the poster titles at the back <p>The discussion that follows will be based on the</p>	<p>10 cards per group i.e. 150 cards</p> <p>Felt pens</p> <p>04 large black poster sheets</p> <p>A4 white paper – for notes and observations</p>	30 minutes

		<p>nature of responses:</p> <ul style="list-style-type: none"> • Do the students see the doctor within a constrained role? • Is there a societal role for doctors in all conditions? – is there an even greater relevance in a diverse, unequal society like India • Is there a possibility that doctors remove themselves from society – us (ivory tower) AND them – the concept of isolationism and the ‘urban citadel’ 		
3	Short film	<p>Short film: In Silence – maternal mortality in India</p> <p>Discussion:</p> <ul style="list-style-type: none"> • Is this a medical problem or are there wider problems? • If there are wider problems, what are they? • What can doctors do to address wider problems? • Do doctors have privileged roles in society 	LCD projector with adequate sound facilities	30 minutes

		that they can exploit for greater common good?		
4	Meet the doctor	<p>Meet the doctor:</p> <p>Three doctors with diverse backgrounds who have chosen wider roles in society:</p> <p>They introduce themselves and their work</p> <p>Interview them:</p> <ul style="list-style-type: none"> • Why did they choose this option? • What were the choices that they had to make? • What challenges did they face? • What advice, if any, would they give to these students? 	Arrange chairs for visitors to face the students	60 minutes
5	Wrap up	<p>Wrap up:</p> <p>Each student gets one card.</p> <ul style="list-style-type: none"> • Think of one social issue in your own local area. • What could you do to help address that issue? 	<p>150 cards</p> <p>4 black poster sheets</p> <p>60 brief feedback questionnaires</p>	30 minutes

		<p>Students stick it on a poster entitled –</p> <ul style="list-style-type: none"> • I AM PART OF SOCIETY – I CAN CONTRIBUTE TO IT • Time for entire batch to review what has been put up- • Which of the sessions did you like the most & why? 		
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Alternative method

No	Sub Session	Methods	Requirements	Time
1	Introduction	<p>An interactive lecture to discuss</p> <ul style="list-style-type: none">• the roles of a physician and the expectation from the patient, families and society. <p>followed by small group discussion</p> <p>Videos / clippings relating to the roles of the doctor could also be used as a trigger for discussion</p>	<p>LCD projector, audio output for video, Appropriate Video clips, Flip charts, Marker pens</p>	1 hour
2	Shadowing the physician	<p>Students asked to shadow Physicians and</p> <ul style="list-style-type: none">• observe patient- physician interaction and their expectations from doctors		2 hours
3	Reflection	Small group discussion and reflection		2 hours
4	Wrap up	Summarize salient points		10 minutes

Assessment: Formative: May be assessed by active discussion in the small group session or by Reflective writing in log book.

1C.Orientation Module: History of Medicine and alternate systems

Students at the time of entry into MBBS must be introduced to the evolution of the system of medicine which they will be learning and appreciate the great men and women behind many of the seemingly mundane practices and concepts in modern medicine. The students should also be introduced to the alternative systems that are available and how they can impact patient preferences and choices.

FC 1.10	Demonstrate awareness of the History of Medicine and alternate systems of Medicine	K	K
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Objectives

At the end of the session, the students should be able to:

1. Discuss the History of Medicine
2. Distinguish Alternative Medicine, Complementary Medicine and Evidence based Medicine
3. Discuss the various Alternative Medicine practices in India and its practice impact

Methodology

No	Sub Session	Methods	Requirements	Time
1	Overview	lecture/ interactive discussion	LCD projector, Flip charts, Marker pens	30 minutes
2	Group work	Students, split into groups, are given a structured task on <ul style="list-style-type: none">• obtaining information on one important aspect of the History of Medicine (example – evolution of the germ	History of Medicine hand outs	3 hours

		<p>theory of medicine, discovery of vaccines,...etc)</p> <p>Small group discussion and reflection</p> <p>Presentation by groups and discussion</p>		
3	Alternate systems of Medicine	<p>lecture/ interactive discussion to address the following questions</p> <ul style="list-style-type: none"> • What is Alternative Medicine? • What is Complementary Medicine? • What is Evidence Based Medicine? • What is the difference between Modern Medicine and Complementary and Alternative Medicine (CAM)? • What is the practice impact? 	LCD projector, Flip charts, Marker pens	1 hour
3	Wrap up	Summation and learning points		10 minutes

Assessment: General feedback about the usefulness of the session for future planning

1D. Orientation Module: IMG roles / overview of MBBS curriculum and various career pathways

It is important for medical students at entry to have an overview of the curricular frame work and the expected learning outcomes from them. It is very important for them to know their career path and the road ahead.

FC 1.2	Demonstrate understanding of the Roles of an Indian Medical Graduate and relate it to the societal impact	A	KH
FC 1.7	Demonstrate understanding of the overview of MBBS curriculum, its structure and outcomes and its relation to the career pathways	K	KH
FC 1.6	Discuss the various career pathways and opportunities for personal growth	A	KH

The objectives

At the end of the session, the students should be able to:

- Comprehend the overall Goal and outcomes of the MBBS program
- Reflect on the various Roles of the Indian Medical Graduate
- Discuss the structure of the MBBS program
- Recognise the various career pathways that are available for their Career growth

Methodology

No	Sub Session	Methods	Requirements	Time
1	GMR 2019	Lecture/ interactive discussion about the salient features of the GMR 2019 <ul style="list-style-type: none">• Explain the MBBS curriculum, its structure, outcomes and curricular requirements for course completion and program certification	LCD projector, Flip charts, Marker pens GMR 2019 handouts	1 hour
2	Panel discussion	A panel of specialists and physicians from diverse career pathways <ul style="list-style-type: none">• Discuss the opportunities for the students followed by a question answer session. This could be done by the Alumni from various career back grounds		2 hour
3	Wrap up	Summation and learning points		10 minutes

Assessment: General feedback about the usefulness of the session for future planning

1E Orientation Module: Principles of family practice

The students need to be provided a basic understanding of the concept of family practice and holistic care. It is also important for the student to understand the role of the family practitioner in the health system, the role they could play at the various levels of health care.

FC1.8	Demonstrate understanding the role of physician at various levels of Health care delivery	K	KH
FC 1.9	Discuss the principles of family practice	K	KH

Objectives:

At the end of this session, the student will be able to:

1. Discuss the principles of family practice and holistic care
2. Describe the role of the physician in the health care system

Methodology

No	Sub Session	Methods	Requirements	Time
1	Principles of family practice and holistic care	Lecture/ interactive discussion about the ten principles of family practice: <ul style="list-style-type: none">▪ Caring▪ Clinical Competence▪ Cost-effectiveness▪ Continuity of care▪ Comprehensive care▪ Common problems management expertise	LCD projector, Flip charts, Marker pens Case vignette or a visit to a family practitioner	1 hour

		<ul style="list-style-type: none"> ▪ Co-ordination of Care ▪ Community based care and research ▪ Counselling and Communication skills ▪ Continuing Medical Education (CME) <p>Depending on available time the session may be preceded by either an appropriate case vignette or a visit to a family practitioner</p>		
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Assessment: Formative: Reflective writing

2. Skills

The fresh undergraduate student should be aware of some basic principles of Hospital safety and trained in certain basic skills that are mandated before they enter patient care areas. These are a part of quality initiatives to ensure patient and physician safety.

2A and 2B Skills module 1 and 2: BLS and First Aid

New entrants into medical fraternity should have a basic understanding of resuscitation and first aid skills.

The Basic Life Support (BLS): CPR provider training is designed to provide the students with foundational knowledge and skills needed to perform cardiopulmonary resuscitation (CPR) and other lifesaving skills. The first-aid component of this course addresses additional circumstances and diseases that may require intervention and assistance before the patient is transferred to emergency medical services.

FC 2.1	Perform Basic Life support in Skills lab	S	SH
FC 2.2	Perform First Aid in a simulated environment	S	SH

Objectives:

At the end of this session, the student will be able to:

1. Perform adequate chest compressions, deliver adequate ventilations in adults and children and appropriately use of an Automated External Defibrillator (AED).
2. Recognize and initiate first aid for several life threatening emergencies.

150 students can be divided into two groups of 75 each. Each group should be engaged by facilitators for a three hour session inclusive of break and subsequently groups should be rotated.

Group 1: Basic Life Support

No	Sub Session	Methods	Requirements	Time
1	Introduction	Introduction to Basic Life Support. Its importance and need.		15 minutes
2	Demonstration with appropriate videos followed by Hands on training	<p>15 groups of 5 students each = 75 Total</p> <p>Demonstrate individual skills of basic life support followed by hands on practice of each skill and finally integration of all the skills in a patient scenario.</p> <ul style="list-style-type: none">• Introduce them to C-A-B algorithm• Recognition of cardiac and respiratory arrest• Pulse check• Chest compression• Delivering effective breaths• Use of an AED• Integration of all skill sets into a single scenario. <p>These skills will be taught for both adults and children (including infants)</p>	<p>Space/Area to accommodate 75 students, Adult, child and infant Basic Life support mannequins.</p> <p>LCD projector with adequate sound facilities to show appropriate videos.</p>	2.5 hours (150 minutes)
3	Wrap up	Feedback from students and guidance for future learning		15 minutes

Group 2: First Aid

No	Sub Session	Methods	Requirements	Time
1	Introduction	Introduction to several life threatening emergencies, the importance of first aid and its benefits.		15 minutes
2	Appropriate videos followed by discussion and hands on training when required.	<p>75 students: Table top discussion</p> <p>Initial videos to demonstrate emergency scenarios followed by appropriate first aid.</p> <ul style="list-style-type: none">• First Aid Basics (Approach)• Medical emergencies (Breathing problems, Choking, Allergic reactions)• Injury Emergencies (Bleeding, Bandaging, Burns, Electrical Injuries)• Environmental Emergencies (Bites and stings, heat cramps) <p>Emphasis on Do's and Don'ts in each category.</p>	<p>Space/Area to accommodate 75 students,</p> <p>adult, child and infant Basic Life support mannequins.</p> <p>LCD projector with adequate sound facilities to show appropriate videos.</p>	2.5 hours (150 minutes)
3	Wrap up	Feedback from students and guidance for future learning		15 minutes

Assessment: Assessment of skill performance as a part of the formative assessment

2C Skills Module: Universal Precautions (UP)

FC 2.3	Follow biosafety and universal precautions	S	SH
FC 2.4	Demonstrate handling and safe disposal of Bio hazardous materials in a simulated environment	S	SH
FC 2.5	Demonstrate proper hand washing and use of personal protective equipment	S	SH
FC 2.6	Demonstrate appropriate response to needle stick injuries	S	SH

Objectives:

At the end of this session, the student will be able to:

1. Define Universal Precautions
2. List essential components of Universal Precautions
3. List infective and non- infective body fluids
4. Demonstrate correct techniques of Hand washing, gloving/degloving, disinfection, handling sharps, waste disposal

Methodology

No	Sub Session	Methods	Requirements	Time
1	Definition of Universal Precautions (UP)	<p>Interactive lecture about:</p> <ul style="list-style-type: none">▪ Definition of UP▪ Essential components of UP▪ Infective and non-infective body fluids (may use a drill to recap)	LCD projector, Flip charts, Marker pens	1 hour
2	Interactive practical demonstration	<ul style="list-style-type: none">▪ Divide the students into groups of not more than 10 per group. <p>There should be one faculty per group who will conduct an interactive practical demo about</p> <ul style="list-style-type: none">▪ Use of hand rub▪ Gloving and de-gloving <p>The students will be then allowed to demonstrate the correct method and receive feedback</p>		2 hour
3	Wrap up	Summation and learning points		10 minutes

Assessment: Formative assessment, OSCE

2D Skills Module: Waste management

FC 2.7	Demonstrate Biomedical Waste (BMW) segregation, observe and reflect on the process of management of BMW in accordance with National regulation	S	SH
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Objectives:

At the end of this session, the student will be able to:

1. Define biomedical waste
2. Explain the hazards of improper disposal of biomedical wastes
3. Describe the different types of waste generated in a health care facility
4. Explain how one should segregate waste
5. Explain how one should dispose biomedical wastes
6. Methodology

No	Sub session	Methods	Requirements	Time
1	Definition of BMW	Interactive lecture about: <ul style="list-style-type: none">▪ Definition of biomedical wastes▪ Different types of waste generated in a health care facility)▪ Segregation and disposal of waste	LCD projector, Flip charts, Marker pens	1 hour

Assessment: Students may present a reflection of their observation, OSCE on BMW segregation

2E Skills Module: Immunization

The students should be sensitised to the occupational exposure and the need for protection and safety. During this session, it's important to review the immunisation status of the students and also ensure compliance to the requirements.

FC 2.8	Discuss the Immunization requirements of Health care professionals	K	KH
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Objectives:

At the end of this session, the student will be able to:

1. List the vaccine-preventable diseases (VPD)
2. Explain why vaccination is important for staff and students
3. Describe the vaccination recommendation for health care personnel (Hepatitis B, Chicken pox etc.)

Methodology

No	Sub Session	Methods	Requirements	Time
1	Vaccine-preventable diseases and recommendations for health care personnel	Interactive lecture about: <ul style="list-style-type: none">• What are vaccine-preventable diseases (VPD)?• Why is vaccination important for staff?• VPDs in healthcare• Recommendation for health care personnel (Hepatitis B, Chicken pox)	LCD projector, Flip charts, Marker pens	1 hour

Assessment: Formative assessment, short notes, Viva in summative assessments

2F Skills Module: Documentation

The students in the first year should be introduced to the importance of “Documentation” in patient care. They should learn the method of appropriate documentation and understand its significance in patient and employee safety.

FC 2.9	Demonstrate awareness of significance of documentation in patient care and the proper method of documentation	S	SH
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Objectives

At the end of the session, the students should be able to:

- Explain the importance of documentation as a physician responsibility
- Discuss the consequences of appropriate and inappropriate documentation on patient and employee safety
- Observe the correct method of documentation in patient record
- Reflect on the process

Method: Large group session that gives an overview and demonstrates the documentation process and explains the right and wrong ways.

- The students can be asked to do mock audit and discuss on patient records (dummy records) with a check list .Small group sessions with peer interaction to guide the new students on the process

Assessment: Formative assessment

3. Community Orientation Module

3A. Community Orientation Module: National Health goals and policies/ health care systems / community health

The medical student should be exposed from the beginning to the community in order to get a bird's eye view of the social, demographic, environmental and cultural factors that influence health and the system of health care delivery at the primary level of health care.

FC 3.1	Demonstrate understanding of the National Health Goals and Policies	K	KH
FC 3.2	Discuss the national health scenario, demographic, socio cultural and epidemiological issues	K	KH
FC 3.3	Demonstrate understanding of the health care systems in India with reference to primary, secondary and tertiary level care	K	KH
FC 3.4	Discuss the basic principles of community health and its impact on health and disease	S	SH
FC 3.5	Demonstrate understanding of the structure and functioning of the community health center	K	KH

Objectives:

At the end of this session, the student will be able to:

1. Explain the National Health goals and policies
2. Discuss the National health scenario, demographic, socio-cultural and epidemiological issues
3. Discuss the health care systems in India with reference to primary, secondary and tertiary level care
4. Describe the basic principles of community health and its impact on Health and disease
5. Observe the structure and functioning of the community health centre
6. Reflect on the observation

Methodology

No	Sub Session	Methods	Requirements	Time
1	National Health: goals and policies	Interactive lecture on National health goals and policies	LCD projector, Flip charts, Marker pens	1 hour
2	National health scenario	Interactive lecture on National health goals and policies	LCD projector, Flip charts, Marker pens	1 hour
3	Health care systems in India	<p>Community Health Centre visit and reflection on the experience with particular reference to:</p> <p>A) Levels of health care in a community setting</p> <p>B) Interaction with families in the community setting and the impact of health</p> <p>C) Functioning of the Community Health Centre and health care team</p> <p>Community visit followed by a discussion back in the college</p>	Logistics for community visit	4 hours
4	Principles of community health			
5	Community Health Center			

Assessment: Formative: Reflection writing / discussion of the experience

3B. Community Orientation Module: Interactions with patients and families and communities.

Exposure to the community in the beginning of their profession will sensitize the students to the actual community living of people, the disease impact in the community and its impact on the patient's families and health workers.

FC 3.6	Demonstrate ability to obtain patient experiences through patient and family interactions and relate these experiences to impact of environment and diseases.	S	SH
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Objectives:

At the end of this session, the student will be able to demonstrate an understanding of:

1. The effect of family and social environment in the aetiology of diseases
2. Community beliefs and practices related to health and illnesses
3. The environmental health problems in the community
4. Patient experiences to diseases treatment-seeking practice

Methodology

No	Sub Session	Methods	Requirements	Time
1	Interaction with patients and families and communities.	<ul style="list-style-type: none">• Community Health centre visit and reflection on the experience with particular reference to:• The effect of family and social environment in the aetiology of diseases• Community beliefs and practices related to	Logistics for community visit LCD projector, Flip charts, Marker pens	1 hour (The time for community visit is factored in in the previous session)

		<p>health and illnesses</p> <ul style="list-style-type: none"> • The environmental health problems in the community • Patient experiences to diseases treatment-seeking practice • Community visit followed by a discussion back in the college 		
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Assessment: Formative: Reflective writing of their observations

4. Professional Development and Ethics

4A. Professional Development and Ethics Module: Concept of Professionalism and Ethics

The students should be introduced to the concept of professionalism and ethics as an important domain in their learning and practice. They should be made aware of the code of conduct and its significance in life and career.

FC 4.1	Demonstrate understanding of the concept of Professionalism and ethics among health care professionals and discuss the consequences of unprofessional and unethical behavior	S	KH
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Objectives:

At the end of this session, the student will be able to:

1. Explain the concept of professionalism and ethics among health care professionals
2. Describe the consequences of unprofessional and unethical behavior

Methodology

No	Sub Session	Methods	Requirements	Time
1	Professionalism and Ethics – the concept	<ul style="list-style-type: none">• Interactive lecture about using case vignettes and video• Could use a drill with various scenarios depicting professional and unprofessional behaviour	LCD projector, Flip charts, Marker pens	1 hour
2	Consequences of unprofessional and unethical behavior	<ul style="list-style-type: none">• Group work using case vignettes / video• Group presentation and discussion with reference to consequences of unprofessional and unethical behavior		1 hour

Assessment: Formative assessment

4B. Professionalism and Ethics Module: White coat ceremony

FC 4.2	Demonstrate understanding that compassion, altruism, integrity, duty, responsibility and trust are the core values that defines the nature of the physician's work	K	KH
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Objective:

At the end of the session, the student is able to:

1. Appreciate the significance of White Coat Ceremony

The white coat reminds physicians of their professional duties, as prescribed by Hippocrates, to lead their lives and practice their art in uprightness and honour. The white coat is a symbol of our profession.

The White Coat Ceremony is a rite of passage, welcoming the new medical students into the medical profession. As medical students, they are bound by the same professional commitments that bind all physicians. This ceremony will join the symbol of the white coat with the virtues of altruism, responsibility, duty, honour, respect, and compassion.

Assessment: Reflections

4C Professionalism and Ethics Module 3: Professional and altruistic behaviour

FC 4.2	Demonstrate understanding that compassion, altruism, integrity duty, responsibility and trust are the core values that defines the nature of the Physician work	K	KH
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Objective

At the end of the session, the student should be able to:

- Describe Altruism
- Discuss Altruism as an important professional virtue of a physician

1	Altruism as a virtue of a Physician	<ul style="list-style-type: none">• Guest lecture / Address by the dean or director• Case based interactive lecture	LCD projector, Flip charts, Marker pens	1hour
2	Case discussion	<ul style="list-style-type: none">• The students will discuss case in groups		1 hour

Assessment: Formative assessment while discussing in groups

4D Professionalism and Ethics Module: Working in a health care team

One of the major roles of the Indian Medical Graduate is that of being a member of a health care team. While the MBBS program is structured to build this competence during its course, an introduction to the concept of working in a team is essential at the beginning.

FC 4.3	Discuss the value of honesty and respect during interaction with peers, seniors, faculty, other health care workers and patients	S	KH
FC 4.4	Discuss the significance of working in a health care team	S	KH

Objectives:

At the end of this session, the student will be able to:

1. Describe the significance of working in a health care team
2. Discuss the role of honesty ,respect and trust

Methodology

No	Sub Session	Methods	Requirements	Time
1	Working in a health care team	<ol style="list-style-type: none">1. The students visit several patient care area and observe functioning of the Multidisciplinary teams, such as the emergency OPD, or OT, or labour room2. The students may be posted in small groups to observe and reflect with regard to the 5	LCD projector, Flip charts, Marker pens	1 hour

		<p>important aspects of working in a team:</p> <ul style="list-style-type: none"> a. Shared goals b. Communication c. Leadership d. Role clarity e. Trust / respect <p>3. Group presentation and discussion</p>		
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3. **Assessment** : Formative assessment during group discussions / presentations

4E Professionalism and ethics Module 5: Disability competencies

As newly joined medical students, they need to recognize the importance of various deviations from majority that are happening in human life. Disability is part of human diversity. Differently abled individuals need to be understood and recognized by any stream that deals with human life.

India was one of the first major country who ratified the greatest human rights instrument of 21st Century, the United Nations Convention on the Rights of Persons with Disabilities (CRPD) and accordingly amended its disability legislation incorporating human rights approach to Rights of Persons with Disabilities (RPDA) Act, 2016. The Act mandates inducting disability content into all professional courses including medical field.

Educational Strategy

An Indian Medical Graduate is expected to have disability competence which is the skills and attributes essential to provide quality health care to patients with disabilities. It is the social responsibility of medical institutions to be empathetic towards the marginalized section. Disability competencies and suggested teaching-learning methods are provided in table 2.

Table 2. Disability Competencies under the Five Roles of the Indian Medical Graduate (IMG)

IMG Role	FC 4.5 Competencies addressed	Domain	Level	Suggested TLM	Duration
	The student should be able to:				

Clinician	4.5.1 Describe disability as per United Nations Convention on the Rights of Persons with Disabilities while demonstrating respect for the differences and capacities of persons with disabilities as part of human diversity and humanity.	K	KH	Lecture/or panel discussion involving person with disability	1 hour
Clinician	4.5.2 Compare and contrast medical and social model of disability.	K	KH	Patient narratives in small groups followed by sharing amongst groups	
Communicator	4.5.3 Build an understanding on the disability etiquettes while addressing people with disabilities	S/A	SH	Standardized patient with disabilities in small groups followed by sharing amongst groups	1 hour
Lifelong learner	4.5.4 Demonstrate awareness of the disabilities included in the Rights of Persons with Disabilities Act, 2016.	K	KH	Case histories, incidental reports in small groups followed by sharing amongst groups	
Communicator	4.5.5 Demonstrate the use of verbal and non-verbal empathetic communication techniques while communicating with people with disabilities	S/A	SH	Clinical patient encounter with guidance in small groups followed by sharing amongst groups	1 hour

Professional	4.5.6 Demonstrate a non-discriminatory behaviour towards patients or caregivers with disabilities	A	SH	Video or simulated encounters or Forum Theatre (Theatre of the Oppressed) Class room Session	
Lifelong learner	4.5.7 Have an understanding of accessible healthcare setting for patients with disabilities, including universal design	K	KH	Functioning of NGO or accessible Disability Unit	Visit or SGD-2 hours
Leader	4.5.8 Advocate social inclusion by raising awareness of the human rights of persons with disabilities.	K	KH	Self-reflection paper/blog SDL	SDL- 2 hours

Modified-from Disability-inclusive Compassionate Care: Core Competencies on Disability for Health Professions Education by Medical Humanities Group, UCMS, Delhi

4F. Professionalism and Ethics Module: Cultural competence

Cultural competence is the ability to interact respectfully with colleagues from any culture and requires critical consciousness. It is a congruent set of behaviours, attitudes, skills, policy and procedures that come together in a system, agency, or among individual professionals to enable them to work effectively in cross cultural situations. This is relevant for the medical students as they are joining MBBS in medical colleges throughout all states in India and students from outside India are also joining medical colleges in India. Therefore, the cross cultural component will help students a lot as the cultural diversity is unique and vast in the country.

FC 4.6	Demonstrate understanding and respect of cultural diversities and interact with those with different cultural values	K/A	KH
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Objectives:

At the end of this session, the student will be able to:

1. Describe components of cultural competence

Methodology

No	Sub Session	Methods	Requirements	Time
1	Components of cultural competence	<ul style="list-style-type: none">• An interactive lecture on the components	LCD projector, Flip charts, Marker pens	1 hour

Professionalism and Ethics Module: Stress management

The first year students are challenged with many changes including the new place, peers, atmosphere, environment and a major leap in the learning styles and contents. This induces stress making them vulnerable. Hence, it is important to address the role of stress during their learning period and methods to enhance their resilience.

FC 4.7	Discuss the significance and methods of stress management and risk taking behaviour.	K	KH
FC 4.8	Understand the role of yoga and meditation in personal health	S	S

Objectives

At the end of the session, the student should be able to:

- Describe the situation that may cause stress during their learning period
- Discuss the health impact of stress
- Appreciate the various stress management techniques including yoga and meditation
- Discuss the spectrum of risk - taking behaviour, consequences and ways to manage

Case based discussion to be held in small groups on stressful situations such, academic stress, examination stress, peer pressure, family pressure, gender issues, discrimination, dealing with emotions. Various risk taking behaviours such as violence, drug abuse, rash driving, bullying etc. should be addressed.

A Yoga / Meditation demonstration by an expert followed by reflection on the experience may be done.

4 H Professional Development and Ethics Module: Time management

Good time management is essential for a Professional. Many deadlines for college work occur at the same time, and unless the student plans ahead, he/she will find it difficult to manage. Learning how to manage time will help them maintain academic performance as well as a life outside of school.

FC 4.9	Discuss the significance and appropriate ways of time management	S	SH
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Objectives:

At the end of this session, the student will be able to:

1. Describe the importance of time management
2. Prioritize their activities in order to manage time better
3. Identify and handle their own distractions and interruptions

Methodology

No	Sub Session	Methods	Requirements	Time
1	Importance of time management	<ul style="list-style-type: none">• An interactive lecture	LCD projector, Flip charts, Marker pens	1/2 hour
2	Prioritization	<ul style="list-style-type: none">• Group work using the “action priority matrix”• Discussion		1 hour

3	Distractions and Interruptions	<ul style="list-style-type: none"> • Administer the time management skills questionnaire • Students to reflect their own strengths • Ask students to work in groups and write down what they think are the main distractions / interruptions that a MBBS student will face. • Ask the groups to discuss and present the solutions to the above 		1 hour
4	Wrap up	Summarize and take general feedback about the session		5 minutes

Assessment: Formative

4I Professional Development and Ethics Module: Interpersonal relationship

The students should understand the role of interpersonal relationship while interacting with the patients, families, peers, superiors and health care personnel. They should understand the significance of these interactions and professional boundaries. They should understand and experience the role of mentoring in personal and professional growth.

FC 4.10	Demonstrate understanding of importance of interpersonal relationship while working in a health care team	S	KH
FC 4.11	Understand the role of mentoring	S	KH

Learning method:

- (1) Role plays to understand the significance of interpersonal relationship and group discussion
- (2) Interactive lecture on Mentoring followed by allotment of mentors to the new batch
- (3) Mentor-Mentee interaction and road ahead

4J Professionalism and Ethics: Learning

After years of formal schooling, students enter the MBBS course often without having mastered the fundamental skills of learning. When they begin their course and are propelled into a more active learner mode, understanding of these fundamentals becomes vital. Students will learn how to learn through many avenues, such as modelling, curiosity, and situational need. This session on learning is included in the Foundation Course as a way to help them understand the process learning.

FC 4.12	Demonstrate understanding of the process of group learning and group dynamics	S	KH
FC 4.13	Comprehend the learning pedagogy and its role in learning skills	S	KH

FC 4.14	Demonstrate understanding of different methods of self-directed learning	S	KH
FC 4.15	Understand collaborative learning	S	KH

Objectives:

1. To recognize the need to learn
2. To identify and maximize one's learning style
3. To describe how people learn
4. Experience collaborative and group learning
5. Discuss the methods of SDL and its application in their routine learning

Learning method

- Students are subjected learning style evaluation and asked to reflect
- Students are exposed to various methods through self -experience and role play and asked to reflect

Assessment: Nil

5 Enhancement of Language and Computer Skills:

5A Enhancement of Language and Computer Skills Module: Communication

Good communication skills are essential for an optimal doctor-patient relationship, relationship between peers/colleagues and also colleagues in a team which ultimately also contributes to improved health outcomes. Training in communication skills needs approaches which are different from that of teaching other clinical subjects.

FC5.1	Demonstrate ability to communicate with patient and families, be aware of barriers to communication and appropriate ways to respond	C	SH
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Objectives:

At the end of this session, the student will be able to:

1. Describe the basic elements of communication skills
2. Explain the importance of listening and empathy in communication
3. Explain the importance of good communication skills in medicine
4. Recognise the common barriers to communication
5. Observe patient and family interactions (Videos , Role plays)
6. Reflect on the appropriate ways to respond

Methodology

No	Sub Session	Methods	Requirements	Time
1	Basic communication skills	<ul style="list-style-type: none">• Lectures (PPT), role plays, group	LCD projector, Flip charts,	3 hours

2	Listening skills	discussions, brainstorming	Marker pens	
3	Importance of empathy in communication skills			
4	Importance of good communication in medicine			
5	Observe patient and family interactions	<ul style="list-style-type: none"> • Video demo / Role play of patient and family interaction • Ask students to reflect on appropriate and inappropriate responses 	Video	

Assessment: Formative during group discussions

5B Enhancement Skills Module 8: Local Language skills

The local language skills training will be conducted as per the felt need and may continue beyond the Foundation Course.

FC 5.2	Demonstrate use of local language in patient and peer interactions	C	SH
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Sessions will be organised in small groups and rotated between enhancement skills

5C Enhancement Skills Module 8: English Language skills

The English language skills training will be conducted as per the felt need and may continue beyond the Foundation Course.

FC 5.3	Demonstrate ability to communicate and learn in English	C	SH
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Sessions will be organised in small groups and rotated between enhancement skills

Enhancement of Language and computer skills Module: Basic computer skills

The students should be competent in the use of ICT in teaching and learning. The students should be introduced to the basic use of word and power point, familiar with search engines, in performing a literature search and accessing online resources.

FC 5.4	Demonstrate basic computer skills	S	SH
FC 5.5	Demonstrate ability for accessing online resources	S	SH

The students are posted to the computer / Active learning centre for the training and it will continue as per need of the students beyond Foundation Course

6 Sports and extracurricular activities

Should be for a mandatory 4 hours per week and extra-curricular activities 2 hours per week, subject to a maximum of 22 hours

1. Further Reading link

<https://www.mciindia.org/CMS/wp-content/uploads/2019/01/UG-Curriculum-Vol-I.pdf>

<https://www.mciindia.org/CMS/wp-content/uploads/2019/01/UG-Curriculum-Vol-II.pdf>

<https://www.mciindia.org/CMS/wp-content/uploads/2019/01/UG-Curriculum-Vol-III.pdf>

https://www.mciindia.org/CMS/wp-content/uploads/2019/01/AETCOM_book.pdf



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Enumerate

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ELECTIVES

Module 6

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Team Leader

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Lifelong Learner

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Skills

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Curriculum Implementation Support Program

**Module on Electives
for
Undergraduate Medical Education
Program
2020**



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Foreword ELECTIVES

Students who join medicine come in with many professional and personal aspirations. While meeting the needs of the profession and nation, the MBBS program is also designed to create time and opportunity for students to explore future interests. Allowing students time to experience a specialty or project of their choice is thus key to helping student interest bloom.

Creating a diversity of choices within a specified framework that will allow students to be part of a laboratory, participate in research, be part of a super-specialty care team or interact with patients in a community care setting is a mandate of the new regulations notified by the Government of India. Electives allow students to get a taste of a future career; they also allow them to pursue academic interests, do projects and work in diverse environments. These experiences outside the traditional boundaries of the core program allow students to reflect, plan and grow their careers. They also allow students to begin the process of professional networking early.

Institutions must give sufficient importance to the planning and execution of electives. Besides creating diverse opportunities, thought must be given to providing a safe and enabling environment for students to learn. Identifying and orienting preceptors for this purpose, developing portfolio and log book events and continuous program evaluation are key to the success of the program. I urge all institutions to look beyond traditional boundaries to create areas of opportunity for students. Strategic collaborations with centers of excellence will increase value for students while building bridges of collaborative work among institutions.

This booklet is designed to help institutions plan and execute elective rotations. The Expert Group has elucidated a balanced approach that can be followed by all institutions. As always we are keen to learn and share any best practices that institutions develop. I am grateful to the Academic Cell of MCI and the Expert Group as well as the nodal and regional centers of the MCI for their continued contribution in supporting institutions and teachers in implementing the forward looking changes in the new competency based UG curriculum.

**Chairman
Board of Governors**

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भारतीय आयुर्विज्ञान परिषद्
MEDICAL COUNCIL OF INDIA

BOARD OF GOVERNORS
IN SUPERSESSION OF MEDICAL COUNCIL OF INDIA

Foreword

Electives

Changes in the Graduate Medical Education Regulations notified by the Government of India in 2019 have been done with a view to create physicians of first contact who are relevant to both their community and the globe. These regulations aim at defining outcomes and help students work towards these. These Regulations also envisage a broader role for trainees as scholars, researchers and specialists. In order to diversify experience, stimulate interest in research and discover learning beyond primary care, an opportunity has been created in the new MBBS program for the student to undertake electives of his or her choice subject to availability. Two months of elective time one each in the basic sciences or research and the other in clinical sciences or community clinics have been created. Leverage has been given to institutions to create these electives based on local circumstances and perceived need. Elective postings are compulsory for students and its successful completion is necessary for students to be able to attend the final examination.

This booklet is intended as a guide for institutions to plan the elective postings. Institutions are requested to provide the opportunity for students to take electives of their choice, if needed through external collaborations, if such opportunities are limited while following the guidelines mentioned in the Graduate Medical Education Regulations and this booklet. I would like to express my gratitude to the Academic Cell of MCI and the Expert Group whose constant guidance has helped in the successful roll out of the new curriculum.

Secretary General, MCI

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Curriculum Implementation Support Program

Module:

ELECTIVES

Electives

Introduction

The MBBS program is geared to create a primary care provider of first contact. It also visualises the student as a future scholar, specialist, researcher and scientist.

Provision of avenues in the competency based undergraduate MBBS program for the student to explore and experience various streams of the profession is important. Electives are learning experiences that will provide the learner with an opportunity to gain immersive experience of a career stream, discipline or research project.

The opportunity to “work” in a clinical, laboratory, research, community set up or in a team-based setting at an early stage in the profession is an invaluable experience for learners as this will have lasting impact on their professional life. An elective allows students to think of a career beyond examinations and gives them an impetus to think laterally besides laying down the foundation for future professional pathways. It also allows students to match their aspirations with the ground reality in a field of their dreams.

The revised Regulations on Graduate Medical Education, part II 2019 (GMER 2019) have created such opportunity in the MBBS program providing students options to do electives in basic sciences, join in ongoing clinical programs and in research settings. This document is meant to guide institutions, Curriculum Committee members and MEU faculty of colleges, and teachers on how to prepare and experience the conduct of an elective that incorporates the principles enshrined in the GMER document, 2019.

Objectives

The participant must be able to develop electives for block 1 and block 2 as envisaged in GMER 2019 document.

Glossary

Elective: An elective is a learning experience created in the curriculum to provide an opportunity for the learner to explore, discover and experience areas or streams of interest.

Block: is a defined time period during which learning experiences are created in a particular specialty, subject or theme.

Log Book: Is a *verified record* of the progression of the learner documenting the acquisition of the requisite knowledge, skills, attitude and/or competencies.

Portfolio: is a collection of the learner's progression in tasks and competencies. A portfolio is an evidence of events documented in the log book. It includes selected assignments, self-assessment, feedback, work-based and in-training formative assessments, reflections and learnings from planned activity in the curriculum.

Log books are thus linked to portfolios and may be included in the portfolio.

Definitions

An Elective is a learning experience created in the curriculum to provide an opportunity for the learner to explore, discover and experience areas or streams interest in the profession.

Curricular Element or Program addressed

Electives

Relevant extract from Regulations on Graduate Medical Education, Regulations on Graduate Medical Education (Amendment), 2019, part - II for MBBS course starting from academic year 2019-20 onwards

9.3. Electives

9.3.1 Objectives: To provide the learner with opportunities:

- (a) For diverse learning experiences,
- (b) To do research/community projects that will stimulate enquiry, self-directed, experiential learning and lateral thinking.

9.3.2 Two months are designated for elective rotations after completion of the examination at end of the third MBBS Part I and before commencement of third MBBS Part II.

9.3.3 It is mandatory for learners to do an elective. The elective time should not be used to make up for missed clinical postings, shortage of attendance or other purposes.

9.3.4 Structure

- (a) The learner shall rotate through two elective blocks of 04 weeks each.
- (b) Block 1 shall be done in a pre-selected preclinical or para-clinical or other basic sciences laboratory OR under a researcher in an ongoing research project. During the electives, regular clinical postings shall continue.
- (c) Block 2 shall be done in a clinical department (including specialties, super-specialties, ICUs, blood bank and casualty) from a list of electives developed and available in the institution OR as a supervised learning experience at a rural or urban community clinic.
- (d) Institutions will pre-determine the number and nature of electives, names of the supervisors, and the number of learners in each elective based on the local conditions, available resources and faculty.

9.3.5 Each institution will develop its own mechanism for allocation of electives.

- 9.3.6 It is preferable that the list of elective choices are made available to the learners in the beginning of the academic year.
- 9.3.7 The learner must submit a learning log book based on both blocks of the elective.
- 9.3.8 75% attendance in the electives and submission of log book maintained during elective postings is required for eligibility to appear in the final MBBS examination.
- 9.3.9 Institutions may use part of this time for strengthening basic skill certification.

Description of Curricular program

Two choices of electives are offered to medical students before the commencement of III MBBS part 2. For the purpose of this document these shall be called Block 1 and Block 2. The salient features of each block and their differences are summarised in Table 1.

Table 1: Salient features of Electives in Block 1 and Block 2

	Block 1	Block 2
When	Before commencement of III rd MBBS part 2	Before commencement of III rd MBBS part 2
Duration	4 weeks	4 weeks
Focus of electives	Pre-/para - clinical disciplines or in other basic sciences laboratory or join ongoing research programs	Clinical specialties or community clinics (rural or urban)
Nature of learning	Supervised Experiential Immersive Self-directed	Supervised Experiential Immersive Self-directed
Regular clinical postings	Will continue	Will not be offered
Attendance	Mandatorily 75% attendance is required as prerequisite to be allowed	Mandatorily 75% attendance is required as prerequisite to be allowed

	to take Part 2 summative examination	to take Part 2 summative examination
Assessment	Formative Record of activities in log book and portfolio (or annexure to log book) to be submitted as prerequisite to be allowed to take Part 2 summative exam	Formative Record of activities in log book and portfolio (or annexure to log book) to be submitted as prerequisite to be allowed to take Part 2 summative exam
Out of institution experience	Allowed (note clinical postings allowed to continue)*	Allowed within the city*
Out of city or state experience	Continuation of clinical postings makes this difficult	Allowed with due approval*

* See caveat in text

The primary purpose of block 1 is to provide the learner with research experience in basic sciences OR laboratory sciences OR in clinical sciences. The purpose of block 2 is to provide the learner an explorative experience with guided patient care in a specialty of choice.

Electives in both blocks will require planning and coordination by the institution, various departments involved and preceptors who will directly supervise and guide students. Coordination will also be required with external institutions, community clinics and preceptors as may be required for the conduct of electives.

1. Planning the learning experience

The first step in the process is to plan the learning experience. Given the diversity of blocks there will be some variation in the content style and degree of learning; however, each elective should have the following:

- a. defined learning objectives,
- b. an identified preceptor responsible for guiding the student,

- c. a pre-published timetable of activities identified for the learner during the elective,
- d. list of learning resources for the learner to be used during the elective,
- e. provision to be part of the team to obtain an immersive learning experience,
- f. prerequisites, if any, to be completed before joining the elective,
- g. defined formative assessments with appropriate requirements for portfolio and log book entry, and
- h. program evaluation by the stakeholders.

A template for planning learning experiences is provided in Table 2.

Examples of several kinds of learning experiences are found in annexure 1.

Table 2: Template for planning learning experiences in electives

Name of Block	
Name of Elective	
Location of hospital lab or research facility	
Name of internal preceptor(s)	
Name of external preceptor (if any)	
Learning objectives of the elective	
Number of students that can be accommodated in this elective	
Prerequisites for the elective	
Learning resources for students	
List of activities in which the student will participate	
Portfolio entries required	
Log book entry required	
Assessment	
Other comments	

2. Identifying learning experiences

To ensure that there is an immersive learning experience and greater attention to the learner, each preceptor identified must be tagged with only a minimum number of students. Therefore, it is important to identify a sufficient number of preceptors, laboratory positions, and existing research projects (for block 1) and specialties and community clinics, for block 2. Input from both faculty and students can be sourced to identify electives that are feasible and desired.

If required and feasible, collaboration with external resources including central and private research institutes and laboratories, hospitals and clinics can be done ensuring that the quality and principles outlined in section 1 are maintained. Student-initiated external rotations may be permitted as long as they do not violate institutional rules and conform with the broad principles outlined. Rotations outside the city will require prior permission from the Medical Council of India. Examples (neither exhaustive nor comprehensive) of block 1 and block 2 electives are provided in Table 3.

Table 3: Examples of Block 1 and Block 2 learning experiences

Block 1	Block 2
Laboratory Experience:	Clinical Specialty Experience:
Pathology	Emergency room
Microbiology, Virology	Intensive Care unit
Biochemistry	Psychiatry
Genetics	Adolescent Reproductive Health issues
Molecular biology	Neonatology
Immunology	Dermatology
Pharmaco-vigilance and clinical pharmacology	Health care quality and safety

Infection Control	Rehabilitation and palliative care
Community outreach experience	Sports medicine
Assisted living	Clinical Ethics
Hospice care	Super-specialty experience
School Health programs	Hematology
Community outreach for National Health Programs	Oncology
Maternal and child health outreach	Rheumatology
Research	Endocrinology and Diabetes
Student initiated research	Nephrology
Participation in faculty research	Neurosurgery
Community and epidemiologic surveys	Cardiology / Cardiac Surgery
Others	GI surgery
Bioinformatics / Tissue engineering	Organ Transplant Anesthesia
Computers and artificial intelligence in health care	Urban or Rural community experience
	Rural Community Health Center
	Primary Health Center
	Corporation health clinic
	Selected private primary care clinic

3. Student counseling and allocation of electives

The list of available learning experiences for each block and the names of preceptors for each should be available to students on the institutional notice board at least three months before the commencement of the electives. A process for submitting applications for both blocks with choices should be made available to

the students. Written information on each learning experience must be available for students to examine and make an informed choice.

A counseling session with faculty mentors to help students choose electives is desirable. The faculty mentors must ascertain a student's expectation from the electives he/she has chosen. Students must also be made aware of the rules regarding attendance, work schedule, documentation and assessment requirements for each elective. The allocation of electives may be done based on student choice and availability of rotation by faculty who have been identified to be in-charge of the electives program, for each block. The allocation must be done sufficiently in advance and the students informed so that the prerequisites for the electives, if any (such as knowledge training in good laboratory practices, good research practices, CPR training etc.) can be completed by the student. A process to identify the veracity of student initiated electives must be in place.

4. Student research

Block 1 may also be used by students under the guidance of a preceptor to complete funded (e.g. ICMR student grant, institutional grant etc,) or unfunded research projects. In addition, predefined work, monitoring, presentation and writing plan may be finalised by the learner and the preceptor, prior to starting the elective. Students may also participate in a pre-existing research project ongoing under the preceptor.

It is important to define the objectives, role of the student in the project and his or her part in the writing and publication or presentation of a part of the project. An assessment by the preceptor of the student's role, contribution, involvement and performance must be made. Documentation of experiences, observations, reflections and presentations by the student may be added to the portfolio or as annexure to the log book. Appropriate log book entries that document the student participation and which are verified by the preceptor are critical for successful

completion of the work undertaken. Similar arrangements must be made if an external preceptor or institution is identified.

5. External institutions

Given the number of positions available in each elective and the need to provide a broad diverse experience for students, colleges can enter into agreements with external institutions within the country to accommodate students for undertaking an elective experience in both block 1 and block 2, as long as this is not in conflict with the rules and policies of the Medical Council of India, the college of the student and the institution identified and the conditions outlined above are complied with. Student-initiated external rotations may not be discouraged provided they meet the expectations of the program as outlined. Out of city/state experiences may be decided based on institutional policy (since clinical postings will continue during block 1, out of city programs may not be feasible here). Out of state electives in block 2 require prior permission from the Medical Council of India. Identifying suitable preceptors in the host institution and briefing them of the expectations and requirements of the program is important. A local preceptor or faculty who can liaise with the external preceptor will help to solve problems and ensure smooth conduct of the elective.

6. Student safety

In each of these electives especially in those involving external rotations, safety of the student should be paramount. Rotations in which the student may be exposed to potentially hazardous situations must be avoided. It must be made clear to the preceptors by the college authorities that students need to be supervised and must not be involved in patient care as the responsible health provider. When required, students must complete the prerequisite training such as good laboratory practice, universal precautions, good clinical practice etc. before being allowed to participate in electives. The student must be oriented to the program through a formal

orientation process that spells out the expectations/outcomes and the precautions to be observed.

7. Assessment

Assessment will be formative (refer to MCI module no. 3 on Assessment, for details). Attendance of not less than 75% and successful completion of items that require log book entry and their submission is a requirement for the student to become eligible to take the final examination. Assessment elements could include participation in grand rounds, seminars, case records, submission of assignments, reflection on learnings, preparation of abstracts for research posters, design and participation in patient education programs etc. The module on Log book available on the MCI Website may be consulted for further information.

8. Program evaluation

Provision for evaluation of the program based on information from all stakeholders should be made in order to evaluate the effectiveness of the program and need for modifications and improvement.

9. Curricular governance

The Curriculum Committee of the college constituted as per MCI norms and headed by the Dean of the college will be responsible for the design, conduct, implementation and evaluation of the elective program. The design and conduct of block 1 may be assigned to Phase 1 and Phase 2 subcommittees constituted by the Dean while that of block 2 may be assigned to Phase 2 Sub-committee. The departmental heads and preceptors are responsible for the day-to-day conduct of the program, guiding and supervising and assessing students.

Annexure 1

1. Example of a learning experience in block 1

Table 4: Example of a block 1 learning experience

Name of Block	Block 1
Name of Elective	Medical Genetics
Location of hospital Lab or research facility	Medical College hospital
Name of internal preceptor(s)	Name/s
Name of external preceptor (if applicable)	N/A
Learning objectives of elective	<ol style="list-style-type: none"> 1. to demonstrate the conduct of commonly available genetic tests in a controlled environment 2. to enumerate indications for common genetic tests 3. To enumerate the testing protocol for commonly performed genetic tests 4. to demonstrate the correct method to perform a karyotype 5. to present a genetic history and determine the nature of inheritance of a given condition
Number of students that can be accommodated in this elective	4
Prerequisites for elective	Necessary immunisations, Universal precaution certification
Learning resources for students	Departmental handbook provided
List of activities of student participation	<ol style="list-style-type: none"> 1. Work daily with a supervisor in observing, assisting and performing genetic tests 2. Participate in departmental education activities 3. Present at least two tests done by student as a case work up

Portfolio entries required	<ol style="list-style-type: none"> 1. Documentation of worked up cases 2. Documentation of presentation done
Log book entry required	Completion of posting signed by preceptor with a “meets expectation ‘(M)’ grade”
Assessment	Formative: attendance; day-to-day participation in departmental activity; performance of assigned tasks and presentation of worked up case in department
Other comments	

2. Example of a learning experience in block 2

Table 5: Example of a block 2 learning experience

Name of Block	Block 2
Name of Elective	Diabetology
Location of hospital Lab or research facility	Medical College hospital
Name of internal preceptor(s)	Name/s
Name of external preceptor if applicable	N/A
Learning objectives of elective	<ol style="list-style-type: none"> 1. To provide care for patients with diabetes in a supervised environment 2. To function effectively as a team member in a multidisciplinary team managing diabetes 3. To counsel patients about diabetes care appropriately 4. To describe the pathophysiological clinical correlates as they apply to care of patients with diabetes
Number of students that can be accommodated in this elective	6
Prerequisites for elective	Must have received necessary immunisations, Basic Life Support training
List of activities of student participation	<ol style="list-style-type: none"> 1. Participate in OP and IP rounds 2. Participate in afternoon teaching sessions of the department 3. Present at least two cases that are fully worked up in the teaching session 4. Participate in patient education and multidisciplinary team meetings 5. Participate in audit meetings
Learning Resources	Seshadri K: Clinician's handbook of diabetes

Portfolio entries required	Assignments provided Two worked up case records that have been presented Documentation of self-directed learning as summary and reflection
Log book entry required	Satisfactory completion of posting by a preceptor with a “meets expectation ‘M’ grade”
Assessment	Attendance Formative: Participation in OP & IP rounds and team activities, Presentation of worked up cases, Documentation of attendance and required portfolio and log book entries
Other comments	

3. Example of a research rotation in block 1

Table 6: Example of a research learning experience in block 1

Name of Block	Block 1
Name of Elective	Research (Preceptor initiated)
Location of hospital Lab or research facility	Medical College hospital
Name of internal preceptor(s)	Name
Name of external preceptor	N/A
Learning objectives of elective	<ol style="list-style-type: none"> 1. To collect data as prescribed in the protocol 2. To document data in the electronic case record correctly 3. To demonstrate the use of statistical software to do basic research calculations 4. To write an abstract based on the collated data 5. To present abstract to a group of peers and supervisors
Number of students that can be accommodated in this elective	4
Prerequisites for elective	Good clinical practice, Good laboratory practice
List of activities of student participation	<ol style="list-style-type: none"> 1. Work with supervisor in making observations, collect data and document as per protocol 2. Work with statistician to provide a statistical analysis of the data 3. Participate in research meetings of the department, internal and external meetings 4. Write abstract of work done 5. Present abstract in an internal meeting and if possible at an external meeting as a poster or oral presentation

Learning Resources	Sackett DL: Clinical epidemiology Robbins & Cotran Pathological basis of disease
Portfolio entries required	Laboratory notes Statistical work sheet Abstract created
Log book entry required	Satisfactory completion of posting with a “meets expectation ‘(M)’ grade”
Assessment	Attendance Successful completion of research objectives and log book entry
Other comments	

4. Example of an external rotation in block 2

Table 7: Example of a community clinic rotation in block 2

Name of Block	Block 2
Name of Elective	Community Clinic
Location of hospital Lab or research facility	Primary health care center in (name of) a village
Name of internal preceptor(s)	Name
Name of external preceptor if applicable	Name
Learning objectives of elective	<ol style="list-style-type: none"> 1. To provide primary care to patients in a resource limited setting under supervision 2. To function as a member of a health care team in a primary care center 3. To participate in health outreach activities of a primary care center
Number of students that can be accommodated in this elective	6
Prerequisites for elective	Required immunisations to be taken, BLS, Basic Suturing and first aid
List of activities of student participation	<ol style="list-style-type: none"> 1. Provide patient care under the supervision of a community clinic preceptor 2. Assist in common procedures in a community care clinic 3. Counsel patients in their own language 4. Participate in national health care programs offered through the PHC 5. Participate in team meetings of the PHC
Learning Resources	The Washington Manual of Medical Therapeutics, 2019

Portfolio entries required	Daily log of patients seen and activities participated At least 04 fully worked up patients to be documented
Log book entry required	Satisfactory completion of posting by external preceptor co-signed by institutional preceptor
Assessment	Attendance Successful verification of required portfolio entries, Successful completion of the posting as certified in the log book with a “meets expectation ‘M’ grade”
Other comments	

5. Example of a block 1 rotation in emerging infections

Table 8: Example of a learning experience in block 1 in virology

Name of Block	Block 1
Name of Elective	Emerging viral infections
Location of hospital Lab or research facility	Medical college hospital
Name of internal preceptor(s)	Name
Name of external preceptor if applicable	N/A
Learning objectives of elective	<ol style="list-style-type: none"> 1. To obtain experience in the laboratory investigation of viral outbreaks 2. To obtain experience in diagnostic testing in viral diseases
Number of students that can be accommodated in this elective	6
Prerequisites for elective	Universal precautions and Good laboratory practice modules to be completed
List of activities of student participation	<ol style="list-style-type: none"> 1. Participate in laboratory activities including sample processing, sequencing RT PCR viral cultures etc. 2. Participate in academic programs of the department 3. Write up the laboratory work up of two patients with viral illness 4. Visit to a center with electronic or confocal microscope 5. Present at least two cases in departmental academic forum
Learning Resources	Handbook of Virology testing
Portfolio entries required	Lab Notes and work book entries; Presentations done

Log book entry required	Satisfactory completion of posting authenticated by preceptor
Assessment	Attendance Successful verification of required portfolio entries, Successful completion of the posting as certified in the log book with a “meets expectation ‘M’ grade”
Other comments	

6. Example of a block 2 rotation in emerging infections

Table 9: Example of a learning experience in block 2 in virology

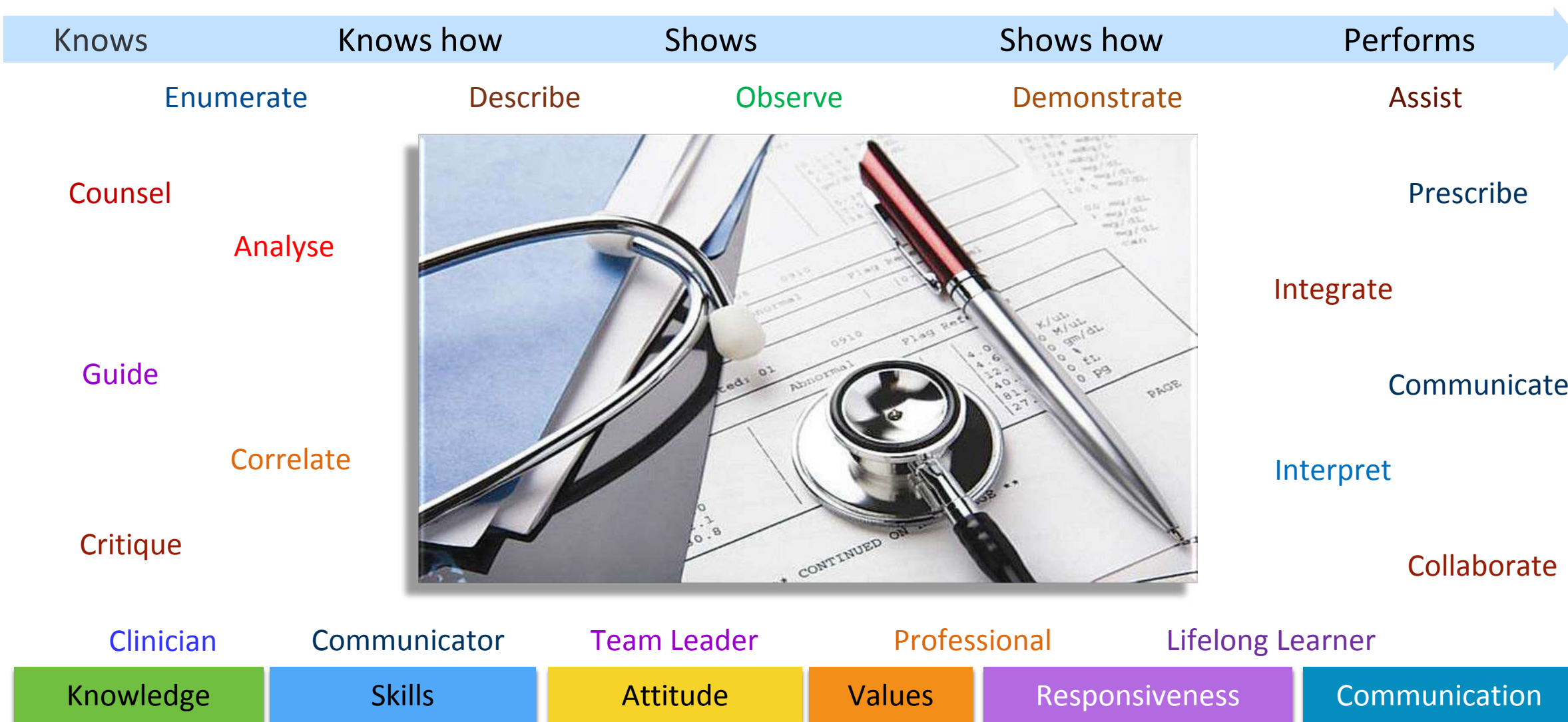
Name of Block	Block 2
Name of Elective	Clinical infectious disease and virology
Location of hospital Lab or research facility	Medical college hospital
Name of internal preceptor(s)	Name
Name of external preceptor if applicable	N/A
Learning objectives of elective	<ol style="list-style-type: none"> 1. To function as part of an infectious disease team 2. To be able to approach and investigate infection outbreaks 3. Get hands on experience on contact tracing, community isolation measures, and use of technology 4. To understand the principles of the management of viral infections
Number of students that can be accommodated in this elective	6
Prerequisites for elective	Universal precautions and must have taken required immunizations; CPR training
List of activities of student participation	<ol style="list-style-type: none"> 1. Participate in inpatient and outpatient team rounds 2. Participate in community outbreak investigations 3. Counsel patients on correct precautions during outbreaks 4. Diagnose and understand the principles in the management of viral diseases 5. Liaise with the laboratory in the diagnosis 6. Present at least one patient or outbreak investigation in the departmental meeting

Learning Resources	Handbook of clinical virology
Portfolio entries required	Case record of at least one patient Record of patient counseling session or contact tracing done
Log book entry required	Satisfactory completion of posting by preceptor
Assessment	Attendance, Successful verification of required portfolio entries, Successful completion of the posting as certified in the log book with a “meets expectation ‘M’ grade”
Other comments	



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COMPETENCY BASED UNDERGRADUATE CURRICULUM FOR THE INDIAN MEDICAL GRADUATE



VOLUME-I (2018)

**COMPETENCY BASED UNDERGRADUATE CURRICULUM
FOR THE
INDIAN MEDICAL GRADUATE
2018**



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भारतीय आयुर्विज्ञान परिषद के अधिक्रमण में शासी बोर्ड

BOARD OF GOVERNORS IN SUPERSESSION OF MEDICAL COUNCIL OF INDIA

FOREWORD

The Medical Council of India, aware of its responsibilities in creation of trained health manpower, has been engaged for the past few years in updating the medical curriculum for undergraduates and postgraduates to be in consonance with the changing health needs of the country. The task of updating and reorganization of the postgraduate curriculum in nearly 50 broad specialty disciplines to the competency pattern was accomplished by the Academic Cell of the Council with the help of subject experts and members of its Reconciliation Board and have been uploaded on the Council Website for use of the medical fraternity.

The Council visualized that the Indian Medical Graduate, at the end of the undergraduate training program, should be able to recognize "health for all" as a national goal and should be able to fulfill his/her societal obligations towards the realization of this goal. To fulfill the mandate of the undergraduate medical curriculum which is to produce a clinician, who understands and is able to provide preventive, promotive, curative, palliative and holistic care to his patients, the curriculum must enunciate clearly the competencies the student must be imparted and must have learnt, with clearly defined teaching-learning strategies and effective methods of assessment. The student should be trained to effectively communicate with patients and their relatives in a manner respectful of the patient's preferences, values, beliefs, confidentiality and privacy and to this purpose, a book on Attitude, Ethics & Communication was prepared by the Medical Council of India; the teaching faculty of medical colleges have been receiving training on this module since 2015.

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-2-

Competency based Medical Education provides an effective outcome-based strategy where various domains of teaching including teaching learning methods and assessment form the framework of competencies. Keeping this objective as the core ingredient, the Medical Council of India with the help of panel of experts drawn from across the country, laid the basic framework for the revised undergraduate medical curriculum. Over the past four years, a group of highly committed medical professionals working as Members of the MCI Reconciliation Board developed this information into a document incorporating appropriate teaching-learning strategies, tools and techniques of teaching, and modes of assessment which have culminated in the current competency based undergraduate curriculum. We understand that maximum efforts were made to encourage integrated teaching between traditional subject areas using a problem-based learning approach starting with clinical or community cases and exploring the relevance of various preclinical disciplines in both the understanding and resolution of the problem. All efforts have been made to de-emphasize compartmentalisation of disciplines so as to achieve both horizontal and vertical integration in different phases. We are proud of their work accomplishment and congratulate them in the onerous task accomplished.

It gives us great satisfaction to state that the '**competency based undergraduate curriculum**' that has been prepared by the Medical Council of India would definitely serve the cause of medical education and in creating a competent Indian Medical Graduate to serve the community.

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Contents Vol. I

Sl. No.	Subject	Legend	Page No.
(i)	Preamble		11
(ii)	How to use the Manual		14
(iii)	Definitions used in the Manual		37
	Competency based Undergraduate Curriculum in Pre-clinical and Para-clinical subjects		
1.	Human Anatomy	AN	41
2.	Physiology	PY	92
3.	Biochemistry	BI	119
4.	Pharmacology	PH	136
5.	Pathology	PA	160
6.	Microbiology	MI	205
7.	Forensic Medicine & Toxicology	FM	228
(iv)	List of contributing subject experts		252

Contents Vol. II

Sl. No.	Subject	Legend	Page No.
(i)	Preamble		11
(ii)	How to use the Manual		14
(iii)	Definitions used in the Manual		37
	Competency based Undergraduate Curriculum in Medicine and Allied subjects		
1.	Community Medicine	CM	41
2.	General Medicine	IM	60
3.	Respiratory Medicine	CT	143
4.	Pediatrics	PE	150
5.	Psychiatry	PS	203
6.	Dermatology, Venereology & Leprosy	DR	219
7.	Physical Medicine & Rehabilitation	PM	229
(iv)	List of contributing subject experts		235

Contents Vol. III

Sl. No.	Subject	Legend	Page No.
(i)	Preamble		11
(ii)	How to use the Manual		14
(iii)	Definitions used in the Manual		37
	Competency based Undergraduate Curriculum in Surgery and Allied subjects		
1.	General Surgery	SU	41
2.	Ophthalmology	OP	79
3.	Otorhinolaryngology	EN	89
4.	Obstetrics & Gynaecology	OG	102
5.	Orthopedics	OR	130
6.	Anesthesiology	AS	145
7.	Radiodiagnosis	RD	154
8.	Radiotherapy	RT	160
9.	Dentistry	DE	163
(iv)	List of contributing subject experts		166

COMPETENCY BASED UNDERGRADUATE CURRICULUM FOR THE INDIAN MEDICAL GRADUATE

Preamble

The new Graduate Medical Education Regulations attempts to stand on the shoulder of the contributions and the efforts of resource persons, teachers and students (past and present). It intends to take the learner to provide health care to the evolving needs of the nation and the world.

More than twenty years have passed since the existing Regulations on Graduate Medical Education, 1997 was notified, necessitating a relook at all aspects of the various components in the existing regulations and adapt them to the changing demography, socio-economic context, perceptions, values and expectations of stakeholders. Emerging health care issues particularly in the context of emerging diseases, impact of advances in science and technology and shorter distances on diseases and their management also need consideration. The strong and forward looking fundamentals enshrined in the Regulations on Graduate Medical Education, 1997 has made this job easier. A comparison between the 1997 Regulations and proposed Graduate Medical Education Regulations, 2018 will reveal that the 2018 Regulations have evolved from several key principles enshrined in the 1997 Regulations.

The thrust in the new regulations is continuation and evolution of thought in medical education making it more learner-centric, patient-centric, gender-sensitive, outcome -oriented and environment appropriate. The result is an outcome driven curriculum which conforms to global trends. Emphasis is made on alignment and integration of subjects both horizontally and vertically while respecting the strengths and necessity of subject-based instruction and assessment. This has necessitated a deviation from using “broad competencies”; instead, the reports have written end of phase subject (sub) competencies. These “sub-competencies” can be mapped to the global competencies in the Graduate Medical Education Regulations.

A significant attempt has been made in the outcome driven undergraduate curriculum to provide the orientation and the skills necessary for life-long learning to enable proper care of the patient. In particular, the curriculum provides for early clinical exposure, electives and longitudinal care. Skill acquisition is an indispensable component of the learning process in medicine. The curriculum reinforces this aspect by necessitating certification of certain essential skills. The experts and the writing group have factored in patient availability, access, consent, number of students in a class etc. in suggesting skill acquisition and assessment methods; use of skills labs, simulated and guided environments are encouraged. In the pre-internship years,- the highest level of skill acquisition is a show how (SH) in a simulated or guided environment; few skills require independent performance and certification - these are marked with P (for performance). Opportunity to ‘perform’ these skills will be available during internship.

The importance of ethical values, responsiveness to the needs of the patient and acquisition of communication skills is underscored by providing dedicated curriculum time in the form of a longitudinal program based on Attitude, Ethics and Communication (AETCOM) competencies. Great emphasis has been placed on collaborative and inter-disciplinary teamwork, professionalism, altruism and respect in professional relationships with due sensitivity to differences in thought, social and economic position and gender.

In addition to the above, an attempt has been made to allow students from diverse educational streams and backgrounds to transition appropriately through a Foundation Course. Dedicated time has been allotted for self directed learning and co-curricular activities.

Formative and internal assessments have been streamlined to achieve the objectives of the curriculum. Minor tweaks to the summative assessment have been made to reflect evolving thought and regulatory requirements. Curricular governance and support have been strengthened, increasing the involvement of Curriculum Committee and Medical Education Departments/Units.

The curriculum document in conjunction with the new Graduate Medical Education Regulations (GMR), when notified, must be seen as a “living document” that should evolve as stakeholder requirements and aspirations change. We hope that the current GMR does just that. The Medical Council of India is

grateful to all the teachers, subject experts, process experts, patients, students and trainees who have contributed through invaluable inputs, intellectual feedbacks and valuable time spent to make this possible. This document would not have been possible without the dedicated and unstinting intellectual, mental and time-consuming efforts of the members of the Reconciliation Board of the Council and the Academic Cell of MCI.

How to use the Manual

This Manual is intended for curriculum planners in an institution to design learning and assessment experiences for the MBBS student. Contents created by subject experts have been curated to provide guidance for the curriculum planners, leaders and teachers in medical schools. They must be used with reference to and in the context of the Regulations.

Section 1

Competencies for the Indian Medical Graduate

Section 1 - provides the global competencies extracted from the Graduate Medical Education Regulations, 2018. The global competencies identified as defining the roles of the **Indian Medical Graduate** are the broad competencies that the learner has to aspire to achieve; teachers and curriculum planners must ensure that the learning experiences are aligned to this Manual.

Extract from the Graduate Medical Education Regulations, 2018

2. Objectives of the Indian Graduate Medical Training Programme

The undergraduate medical education program is designed with a goal to create an “Indian Medical Graduate” (IMG) possessing requisite knowledge, skills, attitudes, values and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being globally relevant. To achieve this, the following national and institutional goals for the learner of the Indian Medical Graduate training program are hereby prescribed:-

2.1. National Goals

At the end of undergraduate program, the Indian Medical Graduate should be able to:

- (a) recognize “health for all” as a national goal and health right of all citizens and by undergoing training for medical profession fulfill his/her social obligations towards realization of this goal.
- (b) learn every aspect of National policies on health and devote herself/himself to its practical implementation.
- (c) achieve competence in practice of holistic medicine, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases.
- (d) develop scientific temper, acquire educational experience for proficiency in profession and promote healthy living.
- (e) become exemplary citizen by observance of medical ethics and fulfilling social and professional obligations, so as to respond to national aspirations.

2.2. Institutional Goals

In consonance with the national goals, each medical institution should evolve institutional goals to define the kind of trained manpower (or professionals) they intend to produce. The Indian Medical Graduates coming out of a medical institute should:

- (a) be competent in diagnosis and management of common health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.
- (b) be competent to practice preventive, promotive, curative and rehabilitative medicine in respect to the commonly encountered health problems.
- (c) appreciate rationale for different therapeutic modalities, be familiar with the administration of the "essential drugs" and their common side effects.
- (d) be able to appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.

- (e) possess the attitude for continued self learning and to seek further expertise or to pursue research in any chosen area of medicine, action research and documentation skills.
- (f) be familiar with the basic factors which are essential for the implementation of the National Health Programs including practical aspects of the following:
 - (i) Family Welfare and Maternal and Child Health (MCH);
 - (ii) Sanitation and water supply;
 - (iii) Prevention and control of communicable and non-communicable diseases;
 - (iv) Immunization;
 - (v) Health Education;
 - (vi) Indian Public Health Standards (IPHS) at various level of service delivery;
 - (vii) Bio-medical waste disposal; and
 - (viii) Organizational and or institutional arrangements.
- (g) acquire basic management skills in the area of human resources, materials and resource management related to health care delivery, General and hospital management, principal inventory skills and counseling.
- (h) be able to identify community health problems and learn to work to resolve these by designing, instituting corrective steps and evaluating outcome of such measures.
- (i) be able to work as a leading partner in health care teams and acquire proficiency in communication skills.
- (j) be competent to work in a variety of health care settings.
- (k) have personal characteristics and attitudes required for professional life including personal integrity, sense of responsibility and dependability and ability to relate to or show concern for other individuals.

All efforts must be made to equip the medical graduate to acquire the skills as detailed in Table 11 Certifiable procedural skills – A Comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) – Indian Medical Graduate, as given in the Graduate Medical Education Regulations, 2018

2.3. Goals for the Learner

In order to fulfil this goal, the Indian Medical Graduate must be able to function in the following roles appropriately and effectively:-

- 2.3.1. Clinician who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.
- 2.3.2. Leader and member of the health care team and system with capabilities to collect, analyze, synthesize and communicate health data appropriately.
- 2.3.3. Communicator with patients, families, colleagues and community.
- 2.3.4. Lifelong learner committed to continuous improvement of skills and knowledge.
- 2.3.5. Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community and profession.

3. Competency Based Training Programme of the Indian Medical Graduate

Competency based learning would include designing and implementing medical education curriculum that focuses on the desired and observable ability in real life situations. In order to effectively fulfil the roles as listed in clause 2, the Indian Medical Graduate would have obtained the following set of competencies at the time of graduation:

3.1. *Clinician, who understands and provides preventive, promotive, curative, palliative and holistic care with compassion*

- 3.1.1 Demonstrate knowledge of normal human structure, function and development from a molecular, cellular, biologic, clinical, behavioral and social perspective.
- 3.1.2. Demonstrate knowledge of abnormal human structure, function and development from a molecular, cellular, biological, clinical, behavioural and social perspective.
- 3.1.3 Demonstrate knowledge of medico-legal, societal, ethical and humanitarian principles that influence health care.

- 3.1.4 Demonstrate knowledge of national and regional health care policies including the National Health Mission that incorporates National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), frameworks, economics and systems that influence health promotion, health care delivery, disease prevention, effectiveness, responsiveness, quality and patient safety.
- 3.1.5. Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is complete and relevant to disease identification, disease prevention and health promotion.
- 3.1.6. Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is contextual to gender, age, vulnerability, social and economic status, patient preferences, beliefs and values.
- 3.1.7 Demonstrate ability to perform a physical examination that is complete and relevant to disease identification, disease prevention and health promotion.
- 3.1.8 Demonstrate ability to perform a physical examination that is contextual to gender, social and economic status, patient preferences and values.
- 3.1.9 Demonstrate effective clinical problem solving, judgment and ability to interpret and integrate available data in order to address patient problems, generate differential diagnoses and develop individualized management plans that include preventive, promotive and therapeutic goals.
- 3.1.10 Maintain accurate, clear and appropriate record of the patient in conformation with legal and administrative frameworks.
- 3.1.11 Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context.
- 3.1.12 Demonstrate ability to prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy and interventions based on the principles of rational drug therapy, scientific validity, evidence and cost that conform to established national and regional health programmes and policies for the following:
 - i) Disease prevention,
 - ii) Health promotion and cure,
 - iii) Pain and distress alleviation, and
 - iv) Rehabilitation and palliation.

- 3.1.13 Demonstrate ability to provide a continuum of care at the primary and/or secondary level that addresses chronicity, mental and physical disability.
- 3.1.14 Demonstrate ability to appropriately identify and refer patients who may require specialized or advanced tertiary care.
- 3.1.15 Demonstrate familiarity with basic, clinical and translational research as it applies to the care of the patient.

3.2. *Leader and member of the health care team and system*

- 3.2.1 Work effectively and appropriately with colleagues in an inter-professional health care team respecting diversity of roles, responsibilities and competencies of other professionals.
- 3.2.2 Recognize and function effectively, responsibly and appropriately as a health care team leader in primary and secondary health care settings.
- 3.2.3 Educate and motivate other members of the team and work in a collaborative and collegial fashion that will help maximize the health care delivery potential of the team.
- 3.2.4 Access and utilize components of the health care system and health delivery in a manner that is appropriate, cost effective, fair and in compliance with the national health care priorities and policies, as well as be able to collect, analyze and utilize health data.
- 3.2.5 Participate appropriately and effectively in measures that will advance quality of health care and patient safety within the health care system.
- 3.2.6 Recognize and advocate health promotion, disease prevention and health care quality improvement through prevention and early recognition: in a) life style diseases and b) cancer, in collaboration with other members of the health care team.

3.3. *Communicator with patients, families, colleagues and community*

- 3.3.1 Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients in a language that the patient understands and in a manner that will improve patient satisfaction and health care outcomes.
- 3.3.2 Demonstrate ability to establish professional relationships with patients and families that are positive, understanding, humane, ethical, empathetic, and trustworthy.
- 3.3.3 Demonstrate ability to communicate with patients in a manner respectful of patient's preferences, values, prior experience, beliefs, confidentiality and privacy.

3.3.4 Demonstrate ability to communicate with patients, colleagues and families in a manner that encourages participation and shared decision-making.

3.4. Lifelong learner committed to continuous improvement of skills and knowledge

3.4.1. Demonstrate ability to perform an objective self-assessment of knowledge and skills, continue learning, refine existing skills and acquire new skills.

3.4.2. Demonstrate ability to apply newly gained knowledge or skills to the care of the patient.

3.4.3. Demonstrate ability to introspect and utilize experiences, to enhance personal and professional growth and learning.

3.4.4. Demonstrate ability to search (including through electronic means), and critically reevaluate the medical literature and apply the information in the care of the patient.

3.4.5. Be able to identify and select an appropriate career pathway that is professionally rewarding and personally fulfilling.

3.5. *Professional who is committed to excellence, is ethical, responsive and accountable to patients, community and the profession*

3.5.1. Practice selflessness, integrity, responsibility, accountability and respect.

3.5.2. Respect and maintain professional boundaries between patients, colleagues and society.

3.5.3. Demonstrate ability to recognize and manage ethical and professional conflicts.

3.5.4. Abide by prescribed ethical and legal codes of conduct and practice.

3.5.5. Demonstrate a commitment to the growth of the medical profession as a whole.

Section 2

Subject-wise outcomes

Section 2 contains subject-wise outcomes so called “sub-competencies” that must be achieved at the end of instruction in that subject. These are organised in tables and have two parts. The core subject outcomes are in first part. The second part in the same document (titled Integration) contains outcomes/competencies in other subjects which have been identified by experts in those subjects as requiring alignment or integration with the core subject.

Outcomes (competencies) in each subject are grouped according to topics number-wise. It is important to review the individual outcomes (competencies) in the light of the topic outcomes as a whole. For each competency outlined - the learning domains (Knowledge, Skill, Attitude, Communication) are identified. The expected level of achievement in that subject is identified as – [knows (K), knows how (KH), shows how (SH), perform (P)]. As a rule, ‘perform’ indicates independent performance without supervision and is required rarely in the pre-internship period. The outcome is a core (Y - must achieve) or a non-core (N - desirable) outcome. Suggested learning and assessment methods (these are suggestions) and explanation of the terms used are given under the section “definitions used in this document”. The suggested number of times a skill must be performed independently for certification in the learner’s log book is also given. Last two columns indicate subjects within the same phase and other phases with which the topic can be taught - together - aligned (temporal coordination), shared, correlated or nested.

The number of topics and competencies in each subject are given below:

Topics & outcomes in Pre-clinical & Para-clinical subjects

Sr. No.	Subjects	Number of topics	Number of outcomes
1.	Human Anatomy	82	409
2.	Physiology	11	137
3.	Biochemistry	11	89
4.	Pharmacology	05	85
5.	Pathology	36	182
6.	Microbiology	08	54
7.	Forensic Medicine & Toxicology	14	162
	Total	167	1118

Topics & outcomes in Medicine and Allied subjects

Sr. No.	Subjects	Number of topics	Number of outcomes
1.	Community Medicine	20	107
2.	General Medicine	26	506
3.	Respiratory Medicine	02	47
4.	Pediatrics	35	406
5.	Psychiatry	19	117
6.	Dermatology, Venereology & Leprosy	18	73
7.	Physical Medicine & Rehabilitation	09	43
	Total	129	1299

Topics & outcomes in Surgery and Allied subjects

Sr. No.	Subjects	Number of topics	Number of outcomes
1.	General Surgery	30	133
2.	Ophthalmology	09	60
3.	Otorhinolaryngology	04	76
4.	Obstetrics & Gynaecology	38	126
5.	Orthopedics	14	39
6.	Anesthesiology	10	46
7.	Radiodiagnosis	01	13
8.	Radiotherapy	05	16
9.	Dentistry	05	23
	Total	116	532

Section 3

Sample topics used for alignment & integration

Section 3 contains a sample selection of topics that run across the phases which can be used for alignment and integration. These are suggestions and institutions can select their own set of topics which can run across phases.

It is important to design the curriculum with a view to ensure with several broad outcomes in mind: a) achievement of the broad competencies by the learner at the end of the MBBS program, b) retain the subject - wise character of learning and assessment and ensure that phase-wise subject outcomes are met and assessed, c) teaching topics that are similar together thereby reducing redundancy and allowing the learner to integrate the concept as the most important step in integration (alignment or temporal coordination) (see document on integration), and d) align learning and assessment experiences to the outcome and the level of achievement specified.

Understanding the competencies table

Understanding the competencies table

A	B	C	D	E	F	G	H	I	J
No.	Competencies	Domain	K/KH/SH/P	Core	Suggested Teaching Learning Method	Suggested Assessment method	No. required to certify (P)	Vertical Integration	Horizontal Integration
Physiology									
Summary Name of Topic: General Physiology Number of Competencies: (08)									
PY1.1	Describe the structure and functions of a	K	KH	Y	Lectures, Small group discussion	Written/Viva			Biochemistry
IM15.4	Elicit <i>document</i> and present a medical history that helps delineate the	S	SH	Y	Bed Side clinic, DOAP	Skill assessment		Community Medicine	

Unique number of the competency. First two alphabets represent the subject (see list); number following alphabet reflects topic number, following period is a running number.

Description of competency

Identifies the domain or domains addressed
 K - Knowledge
 S - Skill
 A - Attitude
 C - Communication

Identifies the level of competency required based on the Miller's pyramid
 K - Knows
 KH - Knows How
 S - Skill
 SH - Show How
 P - Perform independently

Identifies if the competency is core or desirable.
 Y indicates Core;
 N-non-core

Identifies the suggested learning method.
 DOAP - Demonstrate (by Student) Observe, Assist Perform)

Identifies the suggested assessment method
 Skill assessment - Clinics, Skills lab, Practicals etc.

no of times a skill needs to be done independently to be certified for independent performance;
 Rarely used in UG

Subject (s) in other phases with which the competency can be vertically integrated to increase relevance or improve basic understanding

Subject (s) in the same phase with which the competency can be horizontally integrated or aligned to allow a more wholesome understanding

***Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents**

Deriving learning objectives from competencies

Deriving learning objectives from competencies

K	Knows	A knowledge attribute – Usually enumerates or describes
KH	Knows how	A higher level of knowledge – is able to discuss or analyse
S	Shows	A skill attribute: is able to identify or demonstrate the steps
SH	Shows how	A skill attribute: is able to interpret / demonstrate a complex procedure requiring thought, knowledge and behaviour
P	Performs (under supervision or independently)	Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

PA42.3*	Identify the etiology of meningitis based on given CSF parameters	K/S	SH	Y
---------	---	-----	----	---

PA42.1*	At the end of the session the phase II student must be able to enumerate the most common causes of meningitis correctly
PA42.2*	At the end of the session the phase II student must be able to enumerate the components of CSF analysis correctly
PA42.3*	At the end of the session the phase II student must be able to describe the CSF features for a given etiology of meningitis accurately
PA42.4*	At the end of the session the phase II student must be able to identify the aetiology of meningitis correctly from a given set of CSF parameters

Audience - who will do the behavior

Behavior - What should the learner be able to do?

Condition - Under what conditions should the learner be able to do it?

Degree – How well must it be done

Objective: Statement of what a learner should be able to do at the end of a specific learning experience
***Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents**

Deriving learning methods from competencies

Deriving learning methods from competencies

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

PA42.3*	Identify the etiology of meningitis based on given CSF parameters	K/S	SH	Y
---------	--	-----	----	---

Objective: Statement of what a learner should be able to do at the end of a specific learning experience

PA42.1*	At the end of the session the Phase II student must be able to enumerate the most common causes of meningitis correctly	Lecture	small group discussion
PA42.2*	At the end of the session the Phase II student must be able to enumerate the components of a CSF analysis correctly	Related objectives can be combined into one teaching session	
PA42.3*	At the end of the session the Phase II student must be able to describe the CSF features for a given etiologic of meningitis accurately		
PA42.4*	At the end of the session the Phase II student must the able to identify the aetiology of meningitis correctly from a given set of CSF parameters	small group discussion, practical session	

*Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents

Deriving assessment methods from competencies

Deriving assessment methods from competencies-1

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

PA42.3*	Identify the etiology of meningitis based on given CSF parameters	K/S	SH	Y
---------	--	-----	----	---

Objective: Statement of what a learner should be able to do at the end of a specific learning experience

PA42.1*	At the end of the session the Phase II student must be able to enumerate the most common causes of meningitis correctly	Short note or part of structured essay: Enumerate 5 causes of meningitis based on their prevalence in India
PA42.2*	At the end of the session the Phase II student must be able to enumerate the components of a CSF analysis correctly	Short note or part of structured essay: Enumerate the components tested in a CSF analysis
PA42.3*	At the end of the session the Phase II student must be able to describe the CSF features for a given aetiology of meningitis accurately	Short note or part of structured essay: Describe the CSF findings that are characteristic of tuberculous meningitis
PA42.4*	At the end of the session the Phase II student must the able to identify the aetiology of meningitis correctly from a given set of CSF parameters	Short note / part of the structured essay/ Skill station/ Viva voce Review the CSF findings in the following patient and identify (write or vocalise) the most likely etiology

* Numbers given are for illustrative purposes only and should not be compared with numbers in the curriculum document

Deriving assessment methods from competencies-2

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

MI2.4*	List the common microbial agents causing anemia. Describe the morphology, mode of infection and discuss the pathogenesis, clinical course, diagnosis and prevention and treatment of the common microbial agents causing Anemia.	K	KH	Y	Didactic Small group discussion	Written/ Viva voce	Medicine	Pathology
--------	--	---	----	---	------------------------------------	-----------------------	----------	-----------

Objective: Statement of what a learner should be able to do at the end of a specific learning experience

MI2.1*	Enumerate the common microbial agents causing anaemia
MI2.2*	Describe the morphology of agent (1,2 etc)
MI2.3*	Describe the mode of infection of agent in humans
MI2.4*	Discuss the pathogenesis of anemia caused by agent
MI2.5*	Describe the clinical course of infection by agent
MI2.6*	Enumerate the diagnostic tests to identify the aetiology of agent as a cause of anemia
MI2.7*	Discuss the methods to prevent infection by agent
MI2.8*	Describe the treatment of infection by agent

Integrate concept - not necessarily teachers
Plan session with teachers of both subjects -teachers from both subjects usually not needed. Ensure redundancy and duplication by reviewing both subjects



Horizontally aligned and integrated with pathology

Vertically integrated with General Medicine



Integrate concept - not necessarily teachers Plan session with teachers from both phases. Make a decision on how much of the information needs to be brought down to this phase to make it relevant. Consider how a competency can ascend over phases: for eg. - can be at a KH -(know how) in phase II but becomes SH in phase III. For vertical integration with clinical subjects, use of a case to link the concept (a well written paper, case is sufficient). Using teachers from both phases is rarely required

The concept of integration

Concept of integration used in the Manual

Integration is a learning experience that allows the learner to perceive relationships from blocks of knowledge and develop a unified view of its basis and its application. The GMR 2018 applies these principles to the extent that will retain the strengths of silo - based education and assessment while providing experiences that will allow learners to integrate concepts.

Keeping this in mind, the Regulations recommend temporal coordination as described by Harden (called alignment in this document) as the major method to be followed allowing similar topics in different subjects to be thought separately but during the same time frame (Figure 1a).

In a small proportion - not to exceed 20% of the total curriculum an attempt can be made to Share (Figure 1b) topics or Correlate (Figure 1c) topics by using an integration session. The integration session most preferred will be a case based discussion in an appropriate format ensuring that elements in the same phase (horizontal) and from other phases are addressed. Care must be taken to ensure that achievement phase - based objectives are given primacy - the integrative elements from other phases are used only to provide adequate recall and understand the clinical application of concepts. It must be emphasized that integration does not necessarily require multiple teachers in each class. Experts from each phase and subject may be involved in the lesson planning but not it in its delivery unless deemed necessary.

As much as possible the necessary correlates from other phases must also be introduced while discussing a topic in a given subject - Nesting (Figure 1d) (Harden). Topics that cannot be aligned and integrated must be provided adequate time in the curriculum throughout the year.

Assessment will continue to be subject based. However, efforts must be made to ensure that phase appropriate correlates are tested to determine if the learner has internalized and integrated the concept and its application.

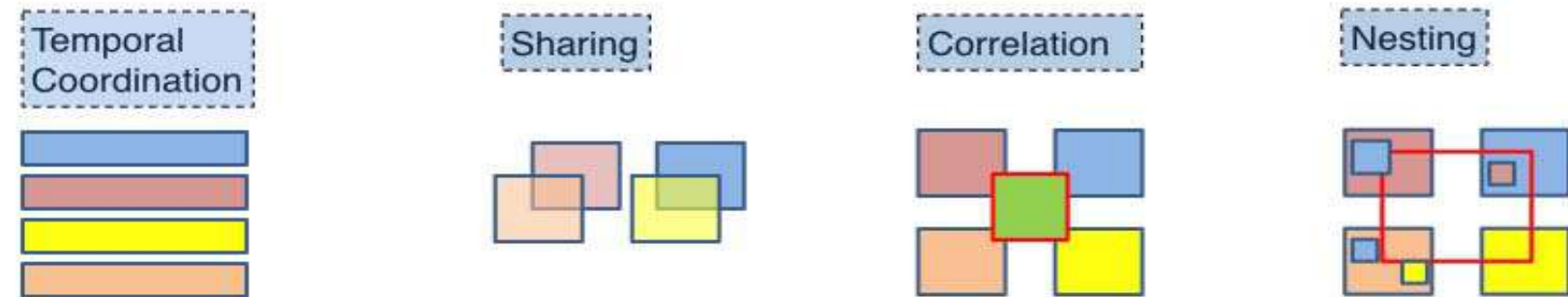


Figure 1 : Integration concepts framed in the GMR. Coloured boxes represent subjects. 1 a. Temporal coordination: The timetable is adjusted so that topics within the subjects or disciplines which are related, are scheduled at the same time. b. Sharing: Two disciplines may agree to plan and jointly implement a teaching program c. Correlation: the emphasis remains on disciplines or subjects with subject-based courses taking up most of the curriculum time. Within this framework, an integrated teaching session or course is introduced in addition to the subject-based teaching (green box with red border) d. Nesting: the teacher targets, within a subject-based course, skills relating to other subjects. Adapted from Harden R Med Edu 2000. 34; 551

Definitions used in the Manual

1. **Goal:** A projected state of affairs that a person or system plans to achieve.

In other words: Where do you want to go? or What do you want to become?

2. **Competency:** The habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served.

In other words: What should you have? or What should have changed?

3. **Objective:** Statement of what a learner should be able to do at the end of a specific learning experience.

In other words: What the Indian Medical Graduate should know, do, or behave.

Action Verbs used in this manual

Knowledge	Skill	Attitude/communicate
Enumerate	Identify	Counsel
List	Demonstrate	Inform
Describe	Perform under supervision	Demonstrate understanding of
Discuss	Perform independently	
Differentiate	Document	
Define	Present	
Classify	Record	
Choose	Interpret	
Elicit		
Report		

Note:

1. Specified essential competencies only will be required to be performed independently at the end of the final year MBBS.
2. The word ‘perform’ or ‘do’ is used ONLY if the task has to be done on patients or in laboratory practical in the pre/para- clinical phases.
3. Most tasks that require performance during undergraduate years will be performed under supervision.
4. If a certification to perform independently has been done, then the number of times the task has to be performed under supervision will be indicated in the last column.

Explanation of terms used in this manual

Lecture	Any instructional large group method including traditional lecture and interactive lecture
Small group discussion	Any instructional method involving small groups of students in an appropriate learning context
DOAP (Demonstration- Observation - Assistance - Performance)	A practical session that allows the student to observe a demonstration, assist the performer, perform in a simulated environment, perform under supervision or perform independently
Skill assessment	A session that assesses the skill of the student including those in the practical laboratory, skills lab, skills station that uses mannequins/ paper case/simulated patients/real patients as the context demands
Core	A competency that is necessary in order to complete the requirements of the subject (traditional must know)
Non-Core	A competency that is optional in order to complete the requirements of the subject (traditional nice (good) to know/ desirable to know)
National Guidelines	Health programs as relevant to the competency that are part of the National Health Program

Domains of learning

K	Knowledge
S	Skill
A	Attitude
C	Communication

Levels of competency

K	Knows	A knowledge attribute - Usually enumerates or describes
KH	Knows how	A higher level of knowledge - is able to discuss or analyze
S	Shows	A skill attribute: is able to identify or demonstrate the steps
SH	Shows how	A skill attribute: is able to interpret/ demonstrate a complex procedure requiring thought, knowledge and behavior
P	Performs (under supervision or independently)	Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results

Note:

In the table of competency - the highest level of competency acquired is specified and implies that the lower levels have been acquired already. Therefore, when a student is able to SH - Show how - an informed consent is obtained - it is presumed that the preceding steps - the knowledge, the analytical skills, the skill of communicating have all been obtained.

It may also be noted that attainment of the highest level of competency may be obtained through steps spread over several subjects or phases and not necessarily in the subject or the phase in which the competency has been identified.

Volume I

Competency based Undergraduate Curriculum

in

Pre-clinical and Para-clinical subjects

HUMAN ANATOMY (CODE: AN)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Human Anatomy									
Topic: Anatomical terminology		Number of competencies: (2)			Number of procedures for certification: (NIL)				
AN1.1	Demonstrate normal anatomical position, various planes, relation, comparison, laterality & movement in our body	K/S	SH	Y	Lecture, DOAP session	Written/ Viva voce/skills assessment			
AN1.2	Describe composition of bone and bone marrow	K	KH	Y	Lecture	Written/ Viva voce			
Topic: General features of bones & Joints		Number of competencies: (6)			Number of procedures for certification: (NIL)				
AN2.1	Describe parts, blood and nerve supply of a long bone	K	KH	Y	Lecture, DOAP session	Written/ Viva voce			
AN2.2	Enumerate laws of ossification	K	KH	N	Lecture	Written			
AN2.3	Enumerate special features of a sesamoid bone	K	KH	N	Lecture	Written			
AN2.4	Describe various types of cartilage with its structure & distribution in body	K	KH	Y	Lecture	Written/ Viva voce		Orthopedics	
AN2.5	Describe various joints with subtypes and examples	K	KH	Y	Lecture	Written/ Viva voce		Orthopedics	
AN2.6	Explain the concept of nerve supply of joints & Hilton's law	K	KH	Y	Lecture	Written/ Viva voce			
Topic: General features of Muscle		Number of competencies: (3)			Number of procedures for certification: (NIL)				
AN3.1	Classify muscle tissue according to structure & action	K	KH	Y	Lecture	Written/ Viva voce			Physiology
AN3.2	Enumerate parts of skeletal muscle and differentiate between tendons and aponeuroses with examples	K	KH	Y	Lecture	Written/ Viva voce			
AN3.3	Explain Shunt and spurt muscles	K	KH	N	Lecture	Written			
Topic: General features of skin and fascia		Number of competencies: (5)			Number of procedures for certification: (NIL)				
AN4.1	Describe different types of skin & dermatomes in body	K	KH	N	Lecture, DOAP session	Written			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN4.2	Describe structure & function of skin with its appendages	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		Dermatology, Venereology & Leprosy	
AN4.3	Describe superficial fascia along with fat distribution in body	K	KH	Y	Lecture, DOAP session	Written/ Viva voce			
AN4.4	Describe modifications of deep fascia with its functions	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		Dermatology, Venereology & Leprosy	
AN4.5	Explain principles of skin incisions	K	KH	N	Lecture	Written		Dermatology, Venereology & Leprosy	
Topic: General features of the cardiovascular system Number of competencies: (8) Number of procedures for certification: (NIL)									
AN5.1	Differentiate between blood vascular and lymphatic system	K	KH	Y	Lecture	Written/ Viva voce			Physiology
AN5.2	Differentiate between pulmonary and systemic circulation	K	KH	Y	Lecture	Written/ Viva voce			Physiology
AN5.3	List general differences between arteries & veins	K	KH	Y	Lecture	Written/ Viva voce			
AN5.4	Explain functional difference between elastic, muscular arteries and arterioles	K	KH	Y	Lecture	Written/ Viva voce			
AN5.5	Describe portal system giving examples	K	KH	Y	Lecture	Written/ Viva voce			
AN5.6	Describe the concept of anastomoses and collateral circulation with significance of end-arteries	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN5.7	Explain function of meta-arterioles, precapillary sphincters, arterio-venous anastomoses	K	KH	N	Lecture	Written			Physiology
AN5.8	Define thrombosis, infarction & aneurysm	K	KH	N	Lecture	Written		Pathology	Physiology
Topic: General Features of lymphatic system Number of competencies: (3) Number of procedures for certification: (NIL)									
AN6.1	List the components and functions of the lymphatic system	K	KH	N	Lecture	Written			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN6.2	Describe structure of lymph capillaries & mechanism of lymph circulation	K	KH	N	Lecture	Written			
AN6.3	Explain the concept of lymphoedema and spread of tumors via lymphatics and venous system	K	KH	N	Lecture	Written		General Surgery	
Topic: Introduction to the nervous system Number of competencies: (8) Number of procedures for certification: (NIL)									
AN7.1	Describe general plan of nervous system with components of central, peripheral & autonomic nervous systems	K	KH	Y	Lecture	Written			
AN7.2	List components of nervous tissue and their functions	K	KH	Y	Lecture	Written/ Viva voce			Physiology
AN7.3	Describe parts of a neuron and classify them based on number of neurites, size & function	K	KH	Y	Lecture	Written/ Viva voce			Physiology
AN7.4	Describe structure of a typical spinal nerve	K	KH	Y	Lecture	Written/ Viva voce			
AN7.5	Describe principles of sensory and motor innervation of muscles	K	KH	N	Lecture	Written		General Medicine	Physiology
AN7.6	Describe concept of loss of innervation of a muscle with its applied anatomy	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
AN7.7	Describe various type of synapse	K	KH	N	Lecture	Written			Physiology
AN7.8	Describe differences between sympathetic and spinal ganglia	K	KH	N	Lecture	Written			
Topic: Features of individual bones (Upper Limb) Number of competencies: (6) Number of procedures for certification: (NIL)									
AN8.1	Identify the given bone, its side, important features & keep it in anatomical position	K/S	SH	Y	DOAP session	Viva voce/ Practicals/ OSPE			
AN8.2	Identify & describe joints formed by the given bone	K/S	SH	Y	Lecture, DOAP session	Viva voce			
AN8.3	Enumerate peculiarities of clavicle	K	KH	Y	Lecture, DOAP session	Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN8.4	Demonstrate important muscle attachment on the given bone	K/S	SH	Y	Practical DOAP session, Small group teaching	Viva voce Practicals		Orthopedics	
AN8.5	Identify and name various bones in articulated hand, Specify the parts of metacarpals and phalanges and enumerate the peculiarities of pisiform	K/S	SH	Y	Practical, F91 DOAP session, Small group teaching	Viva voce Practicals			
AN8.6	Describe scaphoid fracture and explain the anatomical basis of avascular necrosis	K	KH	N	DOAP session	Viva voce		Orthopedics	
Topic: Pectoral region Number of competencies: (3) Number of procedures for certification: (NIL)									
AN9.1	Describe attachment, nerve supply & action of pectoralis major and pectoralis minor	K	KH	Y	Lecture, Practical	Written			
AN9.2	Breast: Describe the location, extent, deep relations, structure, age changes, blood supply, lymphatic drainage, microanatomy and applied anatomy of breast	K	KH	Y	Practical, Lecture	Written/ Viva voce		General Surgery	
AN9.3	Describe development of breast	K	KH	N	Lecture	Written			
Topic: Axilla, Shoulder and Scapular region Number of competencies: (13) Number of procedures for certification: (NIL)									
AN10.1	Identify & describe boundaries and contents of axilla	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN10.2	Identify, describe and demonstrate the origin, extent, course, parts, relations and branches of axillary artery & tributaries of vein	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN10.3	Describe, identify and demonstrate formation, branches, relations, area of supply of branches, course and relations of terminal branches of brachial plexus	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN10.4	Describe the anatomical groups of axillary lymph nodes and specify their areas of drainage	K	KH	Y	Practical, Lecture	Written/ Viva voce		General Surgery	
AN10.5	Explain variations in formation of brachial plexus	K	KH	Y	Practical, Lecture	Written/ Viva voce			
AN10.6	Explain the anatomical basis of clinical features of Erb's palsy and Klumpke's paralysis	K	KH	N	Lecture	Written		General Surgery	
AN10.7	Explain anatomical basis of enlarged axillary lymph nodes	K	KH	N	Lecture	Written		General Surgery	
AN10.8	Describe, identify and demonstrate the position, attachment, nerve supply and actions of trapezius and latissimus dorsi	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN10.9	Describe the arterial anastomosis around the scapula and mention the boundaries of triangle of auscultation	K	KH	N	Lecture	Written			
AN10.10	Describe and identify the deltoid and rotator cuff muscles	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN10.11	Describe & demonstrate attachment of serratus anterior with its action	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN10.12	Describe and demonstrate shoulder joint for– type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, muscles involved, blood supply, nerve supply and applied anatomy	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		Orthopedics	
AN10.13	Explain anatomical basis of Injury to axillary nerve during intramuscular injections	K	KH	N	Lecture	Viva voce			
Topic: Arm & Cubital fossa Number of competencies: (6) Number of procedures for certification: (NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN11.1	Describe and demonstrate muscle groups of upper arm with emphasis on biceps and triceps brachii	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN11.2	Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels in arm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN11.3	Describe the anatomical basis of Venepuncture of cubital veins	K	KH	Y	Practical, Lecture	Written/ Viva voce		General Surgery	
AN11.4	Describe the anatomical basis of Saturday night paralysis	K	KH	Y	Practical, Lecture	Written/ Viva voce		Orthopedics	
AN11.5	Identify & describe boundaries and contents of cubital fossa	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN11.6	Describe the anastomosis around the elbow joint	K	KH	N	Lecture	Written			
Topic: Forearm & hand Number of competencies: (15) Number of procedures for certification: (NIL)									
AN12.1	Describe and demonstrate important muscle groups of ventral forearm with attachments, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN12.2	Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels of forearm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN12.3	Identify & describe flexor retinaculum with its attachments	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN12.4	Explain anatomical basis of carpal tunnel syndrome	K	KH	Y	Lecture	Written/ Viva voce			
AN12.5	Identify & describe small muscles of hand. Also describe movements of thumb and muscles involved	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN12.6	Describe & demonstrate movements of thumb and muscles involved	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN12.7	Identify & describe course and branches of important blood vessels and nerves in hand	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN12.8	Describe anatomical basis of Claw hand	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN12.9	Identify & describe fibrous flexor sheaths, ulnar bursa, radial bursa and digital synovial sheaths	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN12.10	Explain infection of fascial spaces of palm	K	KH	N	Lecture	Written		General Surgery	
AN12.11	Identify, describe and demonstrate important muscle groups of dorsal forearm with attachments, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN12.12	Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels of back of forearm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN12.13	Describe the anatomical basis of Wrist drop	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN12.14	Identify & describe compartments deep to extensor retinaculum	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN12.15	Identify & describe extensor expansion formation	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
Topic: General Features, Joints, radiographs & surface marking Number of competencies: (8) Number of procedures for certification: (NIL)									
AN13.1	Describe and explain Fascia of upper limb and compartments, veins of upper limb and its lymphatic drainage	K	KH	Y	Lecture	Written/ Viva voce			
AN13.2	Describe dermatomes of upper limb	K	KH	N	Lecture	Written/ Viva voce			
AN13.3	Identify & describe the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, blood and nerve supply of elbow joint, proximal and distal radio-ulnar joints, wrist joint & first carpometacarpal joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN13.4	Describe Sternoclavicular joint, Acromioclavicular joint, Carpometacarpal joints & Metacarpophalangeal joint	K	KH	N	Lecture	Written			
AN13.5	Identify the bones and joints of upper limb seen in anteroposterior and lateral view radiographs of shoulder region, arm, elbow, forearm and hand	K/S	SH	Y	Practical, Small group discussion, DOAP session	Viva voce/ skill assessment		Radiodiagnosis	
AN13.6	Identify & demonstrate important bony landmarks of upper limb: Jugular notch, sternal angle, acromial angle, spine of the scapula, vertebral level of the medial end, Inferior angle of the scapula	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Viva voce/ skill assessment			
AN13.7	Identify & demonstrate surface projection of: Cephalic and basilic vein, Palpation of Brachial artery, Radial artery, Testing of muscles: Trapezius, pectoralis major, serratus anterior, latissimus dorsi, deltoid, biceps brachii, Brachioradialis	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN13.8	Describe development of upper limb	K	KH	N	Lecture	Written			
Features of individual bones (Lower Limb) Number of competencies: (4) Number of procedures for certification: (NIL)									
AN14.1	Identify the given bone, its side, important features & keep it in anatomical position	K/S	SH	Y	DOAP session	Viva voce			
AN14.2	Identify & describe joints formed by the given bone	K/S	SH	Y	Lecture, DOAP session	Viva voce			
AN14.3	Describe the importance of ossification of lower end of femur & upper end of tibia	K	KH	Y	Lecture	Viva voce/ Practicals		Forensic Medicine & Toxicology	
AN14.4	Identify and name various bones in the articulated foot with individual muscle attachment	K/S	SH	N	Practical, DOAP session, Small group teaching	Viva voce/ Practicals			
Topic: Front & Medial side of thigh Number of competencies: (5) ♂ Number of procedures for certification: (NIL)									
AN15.1	Describe and demonstrate origin, course, relations, branches (or tributaries), termination of important nerves and vessels of anterior thigh	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN15.2	Describe and demonstrate major muscles with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN15.3	Describe and demonstrate boundaries, floor, roof and contents of femoral triangle	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN15.4	Explain anatomical basis of Psoas abscess & Femoral hernia	K	KH	N	Lecture, DOAP session	Written/ Viva voce		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN15.5	Describe and demonstrate adductor canal with its content	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
Topic: Gluteal region & back of thigh Number of competencies: (6) Number of procedures for certification: (NIL)									
AN16.1	Describe and demonstrate origin, course, relations, branches (or tributaries), termination of important nerves and vessels of gluteal region	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN16.2	Describe anatomical basis of sciatic nerve injury during gluteal intramuscular injections	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		General Surgery	
AN16.3	Explain the anatomical basis of Trendelenburg sign	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		General Surgery	
AN16.4	Describe and demonstrate the hamstrings group of muscles with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN16.5	Describe and demonstrate the origin, course, relations, branches (or tributaries), termination of important nerves and vessels on the back of thigh	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN16.6	Describe and demonstrate the boundaries, roof, floor, contents and relations of popliteal fossa	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
Topic: Hip Joint Number of competencies: (3) Number of procedures for certification: (NIL)									
AN17.1	Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the hip joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN17.2	Describe anatomical basis of complications of fracture neck of femur	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
AN17.3	Describe dislocation of hip joint and surgical hip replacement	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
Topic: Knee joint, Anterolateral compartment of leg & dorsum of foot Number of competencies: (7) ♂ Number of procedures for certification: (NIL)									
AN18.1	Describe and demonstrate major muscles of anterolateral compartment of leg with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN18.2	Describe and demonstrate origin, course, relations, branches (or tributaries), termination of important nerves and vessels of anterior compartment of leg	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN18.3	Explain the anatomical basis of foot drop	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		General Surgery	
AN18.4	Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the knee joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN18.5	Explain the anatomical basis of locking and unlocking of the knee joint	K	KH	Y	Small group teaching	Written/ Viva voce			
AN18.6	Describe knee joint injuries with its applied anatomy	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
AN18.7	Explain anatomical basis of Osteoarthritis	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
Topic: Back of Leg & Sole Number of competencies: (7) Number of procedures for certification: (NIL)									
AN19.1	Describe and demonstrate the major muscles of back of leg with their attachment, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN19.2	Describe and demonstrate the origin, course, relations, branches (or tributaries), termination of important nerves and vessels of back of leg	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN19.3	Explain the concept of “Peripheral heart”	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN19.4	Explain the anatomical basis of rupture of calcaneal tendon	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
AN19.5	Describe factors maintaining importance arches of the foot with its importance	K	KH	Y	Lecture	Written/ Viva voce			
AN19.6	Explain the anatomical basis of Flat foot & Club foot	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
AN19.7	Explain the anatomical basis of Metatarsalgia & Plantar fasciitis	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
Topic: General Features, Joints, radiographs & surface marking Number of competencies: (10) Number of procedures for certification: (NIL)									
AN20.1	Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply of tibiofibular and ankle joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN20.2	Describe the subtalar and transverse tarsal joints	K	KH	N	Lecture, DOAP session	Written/ Viva voce			
AN20.3	Describe and demonstrate Fascia lata, Venous drainage, Lymphatic drainage, Retinacula & Dermatomes of lower limb	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN20.4	Explain anatomical basis of enlarged inguinal lymph nodes	K	KH	N	Lecture	Written/ Viva voce		General Surgery	
AN20.5	Explain anatomical basis of varicose veins and deep vein thrombosis	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN20.6	Identify the bones and joints of lower limb seen in anteroposterior and lateral view radiographs of various regions of lower limb	K/S	SH	Y	Lecture, Small group discussion, DOAP session	Viva voce/ skill assessment		Radiodiagnosis	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN20.7	Identify & demonstrate important bony landmarks of lower limb: -Vertebral levels of highest point of iliac crest, posterior superior iliac spines, iliac tubercle, pubic tubercle, ischial tuberosity, adductor tubercle, -Tibial tuberosity, head of fibula, -Medial and lateral malleoli, Condyles of femur and tibia, sustentaculum tali, tuberosity of fifth metatarsal, tuberosity of the navicular	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Viva voce/ skill assessment			
AN20.8	Identify & demonstrate palpation of femoral, popliteal, post tibial, anti tibial & dorsalis pedis blood vessels in a simulated environment	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Viva voce/ skill assessment		General Medicine	
AN20.9	Identify & demonstrate Palpation of vessels (femoral, popliteal,dorsalis pedis,post tibial), Mid inguinal point, Surface projection of: femoral nerve, Saphenous opening, Sciatic, tibial, common peroneal & deep peroneal nerve, Great and small saphenous veins	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Viva voce/ skill assessment		General Medicine, General Surgery	
AN20.10	Describe basic concept of development of lower limb	K	KH	N	Lecture	Viva voce			
Topic: Thoracic cage Number of competencies: (11) Number of procedures for certification: (NIL)									
AN21.1	Identify and describe the salient features of sternum, typical rib, 1 st rib and typical thoracic vertebra	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment			
AN21.2	Identify & describe the features of 2 nd , 11 th and 12 th ribs, 1 st , 11 th and 12 th thoracic vertebrae	K/S	SH	N	Lecture, DOAP session	Viva voce/ skill assessment			
AN21.3	Describe & demonstrate the boundaries of thoracic inlet, cavity and outlet	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN21.4	Describe & demonstrate extent, attachments, direction of fibres, nerve supply and actions of intercostal muscles	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN21.5	Describe & demonstrate origin, course, relations and branches of a typical intercostal nerve	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN21.6	Mention origin, course and branches/ tributaries of: 1) anterior & posterior intercostal vessels 2) internal thoracic vessels	K	KH	Y	Practical, Lecture	Written/ Viva voce			
AN21.7	Mention the origin, course, relations and branches of 1) atypical intercostal nerve 2) superior intercostal artery, subcostal artery	K	KH	N	Lecture	Written			
AN21.8	Describe & demonstrate type, articular surfaces & movements of manubriosternal, costovertebral, costotransverse and xiphisternal joints	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN21.9	Describe & demonstrate mechanics and types of respiration	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			Physiology
AN21.10	Describe costochondral and interchondral joints	K	KH	N	Lecture	Written			
AN21.11	Mention boundaries and contents of the superior, anterior, middle and posterior mediastinum	K	KH	Y	Practical, Lecture	Written/ Viva voce			
Topic: Heart & Pericardium Number of competencies: (7) Number of procedures for certification: (NIL)									
AN22.1	Describe & demonstrate subdivisions, sinuses in pericardium, blood supply and nerve supply of pericardium	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN22.2	Describe & demonstrate external and internal features of each chamber of heart	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			Physiology
AN22.3	Describe & demonstrate origin, course and branches of coronary arteries	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			Physiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN22.4	Describe anatomical basis of ischaemic heart disease	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN22.5	Describe & demonstrate the formation, course, tributaries and termination of coronary sinus	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN22.6	Describe the fibrous skeleton of heart	K	KH	Y	Lecture	Written			
AN22.7	Mention the parts, position and arterial supply of the conducting system of heart	K	KH	Y	Lecture	Written		General Medicine	Physiology
Topic: Mediastinum Number of competencies: (7) Number of procedures for certification: (NIL)									
AN23.1	Describe & demonstrate the external appearance, relations, blood supply, nerve supply, lymphatic drainage and applied anatomy of oesophagus	K/S	SH	Y	Practical, Lecture, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN23.2	Describe & demonstrate the extent, relations tributaries of thoracic duct and enumerate its applied anatomy	K/S	SH	Y	Practical, Lecture, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN23.3	Describe & demonstrate origin, course, relations, tributaries and termination of superior venacava, azygos, hemiazygos and accessory hemiazygos veins	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN23.4	Mention the extent, branches and relations of arch of aorta & descending thoracic aorta	K	KH	Y	Practical, Lecture	Written/ Viva voce			
AN23.5	Identify & Mention the location and extent of thoracic sympathetic chain	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN23.6	Describe the splanchnic nerves	K	KH	N	Lecture	Written			
AN23.7	Mention the extent, relations and applied anatomy of lymphatic duct	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Lungs & Trachea Number of competencies: (6) Number of procedures for certification: (NIL)									
AN24.1	Mention the blood supply, lymphatic drainage and nerve supply of pleura, extent of pleura and describe the pleural recesses and their applied anatomy	K	KH	Y	Practical, Lecture	Written/ Viva voce		General Medicine	Physiology
AN24.2	Identify side, external features and relations of structures which form root of lung & bronchial tree and their clinical correlate	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Medicine	Physiology
AN24.3	Describe a bronchopulmonary segment	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN24.4	Identify phrenic nerve & describe its formation & distribution	K/S	SH	Y	Lecture, Practical	Written/ Viva voce			
AN24.5	Mention the blood supply, lymphatic drainage and nerve supply of lungs	K	KH	Y	Lecture	Written/ Viva voce			
AN24.6	Describe the extent, length, relations, blood supply, lymphatic drainage and nerve supply of trachea	K	KH	N	Lecture	Written			
Topic: Thorax Number of competencies: (9) Number of procedures for certification: (01)									
AN25.1	Identify, draw and label a slide of trachea and lung	K/S	SH	Y	Lecture, Practical	Written/ skill assessment	1		
AN25.2	Describe development of pleura, lung & heart	K	KH	Y	Lecture	Written			
AN25.3	Describe fetal circulation and changes occurring at birth	K	KH	Y	Lecture	Written		General Medicine	Physiology
AN25.4	Describe embryological basis of: 1) atrial septal defect, 2) ventricular septal defect, 3) Fallot's tetralogy & 4) tracheo-oesophageal fistula	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Physiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN25.5	Describe developmental basis of congenital anomalies, transposition of great vessels, dextrocardia, patent ductus arteriosus and coarctation of aorta	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Physiology
AN25.6	Mention development of aortic arch arteries, SVC, IVC and coronary sinus	K	KH	N	Lecture	Written/ Viva voce			
AN25.7	Identify structures seen on a plain x-ray chest (PA view)	K/S	SH	Y	Practical, DOAP session	Written/ Viva voce		Radiodiagnosis, General Medicine	
AN25.8	Identify and describe in brief a barium swallow	K/S	SH	N	Practical, DOAP session	Written/ Viva voce		Radiodiagnosis, General Medicine	
AN25.9	Demonstrate surface marking of lines of pleural reflection, lung borders and fissures, trachea, heart borders, apex beat & surface projection of valves of heart	K/S	SH	Y	Practical	Viva voce/ skill assessment		General Medicine, Pediatrics	Physiology
Topic: Skull osteology Number of competencies: (7) Number of procedures for certification: (NIL)									
AN26.1	Demonstrate anatomical position of skull, Identify and locate individual skull bones in skull	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment			
AN26.2	Describe the features of norma frontalis, verticalis, occipitalis, lateralis and basalis	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment			
AN26.3	Describe cranial cavity, its subdivisions, foramina and structures passing through them	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment			
AN26.4	Describe morphological features of mandible	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment			
AN26.5	Describe features of typical and atypical cervical vertebrae (atlas and axis)	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment			
AN26.6	Explain the concept of bones that ossify in membrane	K	KH	N	Lecture	Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN26.7	Describe the features of the 7 th cervical vertebra	K/S	SH	N	DOAP session	Viva voce			
Topic: Scalp Number of competencies: (2) Number of procedures for certification: (NIL)									
AN27.1	Describe the layers of scalp, its blood supply, its nerve supply and surgical importance	K	KH	Y	Practical, Lecture	Written/ Viva voce		General Surgery	
AN27.2	Describe emissary veins with its role in spread of infection from extracranial route to intracranial venous sinuses	K	KH	Y	Lecture	Written			
Topic: Face & parotid region Number of competencies: (10) Number of procedures for certification: (NIL)									
AN28.1	Describe & demonstrate muscles of facial expression and their nerve supply	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN28.2	Describe sensory innervation of face	K	KH	Y	Practical, Lecture	Written/ Viva voce			
AN28.3	Describe & demonstrate origin /formation, course, branches /tributaries of facial vessels	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN28.4	Describe & demonstrate branches of facial nerve with distribution	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN28.5	Describe cervical lymph nodes and lymphatic drainage of head, face and neck	K	KH	Y	Practical, Lecture	Written/ Viva voce			
AN28.6	Identify superficial muscles of face, their nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN28.7	Explain the anatomical basis of facial nerve palsy	K	KH	Y	Lecture	Written		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN28.8	Explain surgical importance of deep facial vein	K	KH	Y	Lecture	Written		General Surgery	
AN28.9	Describe & demonstrate the parts, borders, surfaces, contents, relations and nerve supply of parotid gland with course of its duct and surgical importance	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN28.10	Explain the anatomical basis of Frey's syndrome	K	KH	N	Lecture	Written		General Surgery	
Topic: Posterior triangle of neck Number of competencies: (4) Number of procedures for certification: (NIL)									
AN29.1	Describe & demonstrate attachments, nerve supply, relations and actions of sternocleidomastoid	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN29.2	Explain anatomical basis of Erb's & Klumpke's palsy	K	KH	Y	Lecture	Written		General Surgery	
AN29.3	Explain anatomical basis of wry neck	K	KH	N	Lecture	Written		General Surgery	
AN29.4	Describe & demonstrate attachments of 1) inferior belly of omohyoid, 2)scalenus anterior, 3) scalenus medius & 4) levator scapulae	K/S	SH	N	Lecture, Practical	Written/ Viva voce			
Topic: Cranial cavity Number of competencies: (5) Number of procedures for certification: (NIL)									
AN30.1	Describe the cranial fossae & identify related structures	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN30.2	Describe & identify major foramina with structures passing through them	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN30.3	Describe & identify dural folds & dural venous sinuses	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN30.4	Describe clinical importance of dural venous sinuses	K	KH	Y	Lecture	Written			
AN30.5	Explain effect of pituitary tumours on visual pathway	K	KH	N	Lecture	Written		Ophthalmology	
Topic: Orbit Number of competencies: (5) Number of procedures for certification: (NIL)									
AN31.1	Describe & identify extra ocular muscles of eyeball	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN31.2	Describe & demonstrate nerves and vessels in the orbit	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN31.3	Describe anatomical basis of Horner's syndrome	K	KH	N	Lecture	Written		Ophthalmology	
AN31.4	Enumerate components of lacrimal apparatus	K	KH	Y	Lecture	Written			
AN31.5	Explain the anatomical basis of oculomotor, trochlear and abducent nerve palsies along with strabismus	K	KH	Y	Lecture	Written		Ophthalmology	
Topic: Anterior Triangle Number of competencies: (2) Number of procedures for certification: (NIL)									
AN32.1	Describe boundaries and subdivisions of anterior triangle	K	KH	Y	Practical, Lecture	Written/ Viva voce			
AN32.2	Describe & demonstrate boundaries and contents of muscular, carotid, digastric and submental triangles	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
Topic: Temporal and Infratemporal regions Number of competencies: (5) Number of procedures for certification: (NIL)									
AN33.1	Describe & demonstrate extent, boundaries and contents of temporal and infratemporal fossae	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN33.2	Describe & demonstrate attachments, direction of fibres, nerve supply and actions of muscles of mastication	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN33.3	Describe & demonstrate articulating surface, type & movements of temporomandibular joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN33.4	Explain the clinical significance of pterygoid venous plexus	K	KH	Y	Lecture	Written		General Surgery	
AN33.5	Describe the features of dislocation of temporomandibular joint	K	KH	N	Lecture	Written		General Surgery	
Topic: Submandibular region Number of competencies: (2) Number of procedures for certification: (NIL)									
AN34.1	Describe & demonstrate the morphology, relations and nerve supply of submandibular salivary gland & submandibular ganglion	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN34.2	Describe the basis of formation of submandibular stones	K	KH	N	Lecture	Written		General Surgery	
Topic: Deep structures in the neck Number of competencies: (10) Number of procedures for certification: (NIL)									
AN35.1	Describe the parts, extent, attachments, modifications of deep cervical fascia	K	KH	Y	Lecture	Written			
AN35.2	Describe & demonstrate location, parts, borders, surfaces, relations & blood supply of thyroid gland	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN35.3	Demonstrate & describe the origin, parts, course & branches subclavian artery	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN35.4	Describe & demonstrate origin, course, relations, tributaries and termination of internal jugular & brachiocephalic veins	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN35.5	Describe and demonstrate extent, drainage & applied anatomy of cervical lymph nodes	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN35.6	Describe and demonstrate the extent, formation, relation & branches of cervical sympathetic chain	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN35.7	Describe the course and branches of IX, X, XI & XII nerve in the neck	K	KH	Y	Lecture	Written			
AN35.8	Describe the anatomically relevant clinical features of Thyroid swellings	K	KH	N	Lecture	Written		General Surgery	
AN35.9	Describe the clinical features of compression of subclavian artery and lower trunk of brachial plexus by cervical rib	K	KH	N	Lecture	Written		General Surgery	
AN35.10	Describe the fascial spaces of neck	K	KH	N	Lecture	Written			
Topic: Mouth, Pharynx & Palate Number of competencies: (5) Number of procedures for certification: (NIL)									
AN36.1	Describe the 1) morphology, relations, blood supply and applied anatomy of palatine tonsil 2) composition of soft palate	K	KH	Y	Lecture	Written		ENT	
AN36.2	Describe the components and functions of Waldeyer's lymphatic ring	K	KH	Y	Lecture	Written		ENT	
AN36.3	Describe the boundaries and clinical significance of pyriform fossa	K	KH	N	Lecture	Written		ENT	
AN36.4	Describe the anatomical basis of tonsillitis, tonsillectomy, adenoids and peri-tonsillar abscess	K	KH	N	Lecture	Written		ENT	
AN36.5	Describe the clinical significance of Killian's dehiscence	K	KH	N	Lecture	Written		ENT	
Topic: Cavity of Nose Number of competencies: (3) Number of procedures for certification: (NIL)									
AN37.1	Describe & demonstrate features of nasal septum, lateral wall of nose, their blood supply and nerve supply	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		ENT	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN37.2	Describe location and functional anatomy of paranasal sinuses	K	KH	Y	Lecture	Written		ENT	
AN37.3	Describe anatomical basis of sinusitis & maxillary sinus tumours	K	KH	N	Lecture	Written		ENT	
Topic: Larynx Number of competencies: (3) Number of procedures for certification: (NIL)									
AN38.1	Describe the morphology, identify structure of the wall, nerve supply, blood supply and actions of intrinsic and extrinsic muscles of the larynx	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		ENT	
AN38.2	Describe the anatomical aspects of laryngitis	K	KH	N	Lecture	Written		ENT	
AN38.3	Describe anatomical basis of recurrent laryngeal nerve injury	K	KH	N	Lecture	Written		ENT	
Topic: Tongue Number of competencies: (2) Number of procedures for certification: (NIL)									
AN39.1	Describe & demonstrate the morphology, nerve supply, embryological basis of nerve supply, blood supply, lymphatic drainage and actions of extrinsic and intrinsic muscles of tongue	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN39.2	Explain the anatomical basis of hypoglossal nerve palsy	K	KH	N	Lecture	Written		ENT	
Topic: Organs of hearing and equilibrium Number of competencies: (5) Number of procedures for certification: (NIL)									
AN40.1	Describe & identify the parts, blood supply and nerve supply of external ear	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		ENT	
AN40.2	Describe & demonstrate the boundaries, contents, relations and functional anatomy of middle ear and auditory tube	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		ENT	
AN40.3	Describe the features of internal ear	K	KH	N	Lecture	Written		ENT	
AN40.4	Explain anatomical basis of otitis externa and otitis media	K	KH	N	Lecture	Written		ENT	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN40.5	Explain anatomical basis of myringotomy	K	KH	N	Lecture	Written		ENT	
Topic: Eyeball Number of competencies: (3) Number of procedures for certification: (NIL)									
AN41.1	Describe & demonstrate parts and layers of eyeball	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		Ophthalmology	
AN41.2	Describe the anatomical aspects of cataract, glaucoma & central retinal artery occlusion	K	KH	N	Lecture	Written		Ophthalmology	
AN41.3	Describe the position, nerve supply and actions of intraocular muscles	K	KH	N	Lecture	Written		Ophthalmology	
Topic: Back Region Number of competencies: (3) Number of procedures for certification: (NIL)									
AN42.1	Describe the contents of the vertebral canal	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN42.2	Describe & demonstrate the boundaries and contents of Suboccipital triangle	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN42.3	Describe the position, direction of fibres, relations, nerve supply, actions of semispinalis capitis and splenius capitis	K	KH	N	Lecture	Written			
Topic: Head & neck Joints, Histology, Development, Radiography & Surface marking Number of competencies: (9) Number of procedures for certification: (NIL)									
AN43.1	Describe & demonstrate the movements with muscles producing the movements of atlantooccipital joint & atlantoaxial joint	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN43.2	Identify, describe and draw the microanatomy of pituitary gland, thyroid, parathyroid gland, tongue, salivary glands, tonsil, epiglottis, cornea, retina	K/S	SH	Y	Lecture, Practical	Written/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN43.3	Identify, describe and draw microanatomy of olfactory epithelium, eyelid, lip, sclero-corneal junction, optic nerve, cochlea- organ of corti, pineal gland	K/S	SH	N	Lecture, Practical	Written/ skill assessment			
AN43.4	Describe the development and developmental basis of congenital anomalies of face, palate, tongue, branchial apparatus, pituitary gland, thyroid gland & eye	K	KH	Y	Lecture	Written/ Viva voce			
AN43.5	Demonstrate- 1) Testing of muscles of facial expression, extraocular muscles, muscles of mastication, 2) Palpation of carotid arteries, facial artery, superficial temporal artery, 3) Location of internal and external jugular veins, 4) Location of hyoid bone, thyroid cartilage and cricoid cartilage with their vertebral levels	K/S	SH	Y	Practical	Viva voce/ skill assessment		General Surgery	
AN43.6	Demonstrate surface projection of- Thyroid gland, Parotid gland and duct, Pterion, Common carotid artery, Internal jugular vein, Subclavian vein, External jugular vein, Facial artery in the face & accessory nerve	K/S	SH	N	Practical	Viva voce/ skill assessment		General Surgery	
AN43.7	Identify the anatomical structures in 1) Plain x-ray skull, 2) AP view and lateral view 3) Plain x-ray cervical spine-AP and lateral view 4) Plain x-ray of paranasal sinuses	K/S	SH	Y	Practical	Viva voce/ skill assessment		Radiodiagnosis	
AN43.8	Describe the anatomical route used for carotid angiogram and vertebral angiogram	K/S	SH	N	Practical	Viva voce/ skill assessment		Radiodiagnosis	
AN43.9	Identify anatomical structures in carotid angiogram and vertebral angiogram	K/S	SH	N	Practical	Viva voce/ skill assessment		Radiodiagnosis	
Topic: Anterior abdominal wall Number of competencies: (7) Number of procedures for certification: (NIL)									
AN44.1	Describe & demonstrate the Planes (transpyloric, transtubercular, subcostal, lateral vertical, linea alba, linea semilunaris), regions & Quadrants of abdomen	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN44.2	Describe & identify the Fascia, nerves & blood vessels of anterior abdominal wall	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN44.3	Describe the formation of rectus sheath and its contents	K	KH	Y	Lecture	Written/ Viva voce			
AN44.4	Describe & demonstrate extent, boundaries, contents of Inguinal canal including Hesselbach's triangle.	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN44.5	Explain the anatomical basis of inguinal hernia.	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN44.6	Describe & demonstrate attachments of muscles of anterior abdominal wall	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN44.7	Enumerate common Abdominal incisions	K	KH	N	Lecture	Written		General Surgery	
Topic: Posterior abdominal wall Number of competencies: (3) Number of procedures for certification: (NIL)									
AN45.1	Describe Thoracolumbar fascia	K	KH	Y	Lecture	Written			
AN45.2	Describe & demonstrate Lumbar plexus for its root value, formation & branches	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN45.3	Mention the major subgroups of back muscles, nerve supply and action	K	KH	N	Lecture	Written			
Topic: Male external genitalia Number of competencies: (5) Number of procedures for certification: (NIL)									
AN46.1	Describe & demonstrate coverings, internal structure, side determination, blood supply, nerve supply, lymphatic drainage & descent of testis with its applied anatomy	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN46.2	Describe parts of Epididymis	K	KH	Y	Lecture, Practical	Written/ Viva voce			
AN46.3	Describe Penis under following headings: (parts, components, blood supply and lymphatic drainage)	K	KH	Y	Lecture, Practical	Written/ Viva voce			
AN46.4	Explain the anatomical basis of Varicocoele	K	KH	N	Lecture	Written		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN46.5	Explain the anatomical basis of Phimosis & Circumcision	K	KH	N	Lecture	Written		General Surgery	
Topic: Abdominal cavity Number of competencies: (14) Number of procedures for certification: (NIL)									
AN47.1	Describe & identify boundaries and recesses of Lesser & Greater sac	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN47.2	Name & identify various peritoneal folds & pouches with its explanation	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN47.3	Explain anatomical basis of Ascites & Peritonitis	K	KH	N	Lecture	Written		General Surgery	
AN47.4	Explain anatomical basis of Subphrenic abscess	K	KH	N	Lecture	Written		General Surgery	
AN47.5	Describe & demonstrate major viscera of abdomen under following headings (anatomical position, external and internal features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and applied aspects)	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN47.6	Explain the anatomical basis of Splenic notch, Accessory spleens, Kehr's sign, Different types of vagotomy, Liver biopsy (site of needle puncture), Referred pain in cholecystitis, Obstructive jaundice, Referred pain around umbilicus, Radiating pain of kidney to groin & Lymphatic spread in carcinoma stomach	K	KH	N	Lecture	Written		General Surgery	
AN47.7	Mention the clinical importance of Calot's triangle	K	KH	N	Lecture	Written		General Surgery	
AN47.8	Describe & identify the formation, course relations and tributaries of Portal vein, Inferior vena cava & Renal vein	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN47.9	Describe & identify the origin, course, important relations and branches of Abdominal aorta, Coeliac trunk, Superior mesenteric, Inferior mesenteric & Common iliac artery	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN47.10	Enumerate the sites of portosystemic anastomosis	K	KH	Y	Lecture	Written		General Surgery	
AN47.11	Explain the anatomic basis of hematemesis& caput medusae in portal hypertension	K	KH	Y	Lecture,	Written/ Viva voce		General Surgery	
AN47.12	Describe important nerve plexuses of posterior abdominal wall	K	KH	N	Lecture	Written			
AN47.13	Describe & demonstrate the attachments, openings, nerve supply & action of the thoracoabdominal diaphragm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN47.14	Describe the abnormal openings of thoracoabdominal diaphragm and diaphragmatic hernia	K	KH	N	Lecture	Written		General Surgery	
Topic: Pelvic wall and viscera Number of competencies: (8) Number of procedures for certification: (NIL)									
AN48.1	Describe & identify the muscles of Pelvic diaphragm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN48.2	Describe & demonstrate the (position, features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of) important male & female pelvic viscera	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN48.3	Describe & demonstrate the origin, course, important relations and branches of internal iliac artery	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN48.4	Describe the branches of sacral plexus	K	KH	Y	Lecture	Written			
AN48.5	Explain the anatomical basis of suprapubic cystostomy, Urinary obstruction in benign prostatic hypertrophy, Retroverted uterus, Prolapse uterus, Internal and external haemorrhoids, Anal fistula, Vasectomy, Tubal pregnancy & Tubal ligation	K	KH	N	Lecture	Written		General Surgery	
AN48.6	Describe the neurological basis of Automatic bladder	K	KH	N	Lecture	Written		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN48.7	Mention the lobes involved in benign prostatic hypertrophy & prostatic cancer	K	KH	N	Lecture	Written		General Surgery	
AN48.8	Mention the structures palpable during vaginal & rectal examination	K	KH	N	Lecture	Written		Obstetrics & Gynaecology General Surgery	
Topic: Perineum Number of competencies: (5) Number of procedures for certification: (NIL)									
AN49.1	Describe & demonstrate the superficial & deep perineal pouch (boundaries and contents)	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		Obstetrics & Gynaecology	
AN49.2	Describe & identify Perineal body	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		Obstetrics & Gynaecology	
AN49.3	Describe & demonstrate Perineal membrane in male & female	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN49.4	Describe & demonstrate boundaries, content & applied anatomy of Ischiorectal fossa	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Surgery	
AN49.5	Explain the anatomical basis of Perineal tear, Episiotomy, Perianal abscess and Anal fissure	K	KH	N	Lecture	Written		Obstetrics & Gynaecology	
Topic: Vertebral column Number of competencies: (4) Number of procedures for certification: (NIL)									
AN50.1	Describe the curvatures of the vertebral column	K	KH	Y	Lecture	Written/ Viva voce			
AN50.2	Describe & demonstrate the type, articular ends, ligaments and movements of Intervertebral joints, Sacroiliac joints & Pubic symphysis	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN50.3	Describe lumbar puncture (site, direction of the needle, structures pierced during the lumbar puncture)	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
AN50.4	Explain the anatomical basis of Scoliosis, Lordosis, Prolapsed disc, Spondylolisthesis & Spina bifida	K	KH	N	Lecture	Written		Orthopedics	
Topic: Sectional Anatomy Number of competencies: (2) Number of procedures for certification: (NIL)									
AN51.1	Describe & identify the cross-section at the level of T8, T10 and L1 (transpyloric plane)	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		Radiodiagnosis	
AN51.2	Describe & identify the midsagittal section of male and female pelvis	K	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		Radiodiagnosis	
Topic: Histology & Embryology Number of competencies: (8) Number of procedures for certification: (NIL)									
AN52.1	Describe & identify the microanatomical features of Gastro-intestinal system: Oesophagus, Fundus of stomach, Pylorus of stomach, Duodenum, Jejunum, Ileum, Large intestine, Appendix, Liver, Gall bladder, Pancreas & Suprarenal gland	K/S	SH	Y	Lecture, Practical	Written/ skill assessment			
AN52.2	Describe & identify the microanatomical features of: Urinary system: Kidney, Ureter & Urinary bladder Male Reproductive System: Testis, Epididymis, Vas deferens, Prostate & penis Female reproductive system: Ovary, Uterus, Uterine tube, Cervix, Placenta & Umbilical cord	K/S	SH	Y	Lecture, Practical	Written/ skill assessment			
AN52.3	Describe & identify the microanatomical features of Cardiooesophageal junction, Corpus luteum	K/S	SH	N	Lecture, Practical	Written/ skill assessment			
AN52.4	Describe the development of anterior abdominal wall	K	KH	N	Lecture	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN52.5	Describe the development and congenital anomalies of Diaphragm	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN52.6	Describe the development and congenital anomalies of: Foregut, Midgut & Hindgut	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN52.7	Describe the development of Urinary system	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN52.8	Describe the development of male & female reproductive system	K	KH	Y	Lecture	Written/ Viva voce		Obstetrics & Gynaecology	
Topic: Osteology Number of competencies: (4) Number of procedures for certification: (NIL)									
AN53.1	Identify & hold the bone in the anatomical position, Describe the salient features, articulations & demonstrate the attachments of muscle groups	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment		General Surgery, Obstetrics & Gynaecology	
AN53.2	Demonstrate the anatomical position of bony pelvis & show boundaries of pelvic inlet, pelvic cavity, pelvic outlet	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment		Obstetrics & Gynaecology	
AN53.3	Define true pelvis and false pelvis and demonstrate sex determination in male & female bony pelvis	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment		Obstetrics & Gynaecology	
AN53.4	Explain and demonstrate clinical importance of bones of abdominopelvic region (sacralization of lumbar vertebra, Lumbarization of 1st sacral vertebra, types of bony pelvis & Coccyx)	K/S	SH	N	Lecture, DOAP session	Viva voce/ skill assessment			
Topic: Radiodiagnosis Number of competencies: (3) Number of procedures for certification: (NIL)									
AN54.1	Describe & identify features of plain X ray abdomen	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment		Radiodiagnosis	
AN54.2	Describe & identify the special radiographs of abdominopelvic region (contrast X ray Barium swallow, Barium meal, Barium enema, Cholecystography, Intravenous pyelography & Hysterosalpingography)	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment		Radiodiagnosis	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN54.3	Describe role of ERCP, CT abdomen, MRI, Arteriography in radiodiagnosis of abdomen	K	KH	N	Lecture	Viva voce		Radiodiagnosis	
Topic: Surface marking Number of competencies: (2) Number of procedures for certification: (NIL)									
AN55.1	Demonstrate the surface marking of; Regions and planes of abdomen, Superficial inguinal ring, Deep inguinal ring , McBurney's point, Renal Angle & Murphy's point	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Viva voce/ skill assessment		General Surgery	
AN55.2	Demonstrate the surface projections of: Stomach, Liver, Fundus of gall bladder, Spleen, Duodenum, Pancreas, Ileocaecal junction, Kidneys & Root of mesentery	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Viva voce/ skill assessment		General Surgery	
Topic: Meninges & CSF Number of competencies: (2) Number of procedures for certification: (NIL)									
AN56.1	Describe & identify various layers of meninges with its extent & modifications	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Medicine	
AN56.2	Describe circulation of CSF with its applied anatomy	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
Topic: Spinal Cord Number of competencies: (5) Number of procedures for certification: (NIL)									
AN57.1	Identify external features of spinal cord	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN57.2	Describe extent of spinal cord in child & adult with its clinical implication	K	KH	Y	Lecture	Written/ Viva voce			
AN57.3	Draw & label transverse section of spinal cord at mid-cervical & mid-thoracic level	K	KH	Y	Lecture	Written/ Viva voce			
AN57.4	Enumerate ascending & descending tracts at mid thoracic level of spinal cord	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN57.5	Describe anatomical basis of syringomyelia	K	KH	N	Lecture	Written		General Medicine	Physiology
Topic: Medulla Oblongata Number of competencies: (4) Number of procedures for certification: (NIL)									
AN58.1	Identify external features of medulla oblongata	K/S	SH	Y	Lecture, DOAP session	Written/ Viva voce/ skill assessment			
AN58.2	Describe transverse section of medulla oblongata at the level of 1) pyramidal decussation, 2) sensory decussation 3) ION	K	KH	Y	Lecture	Written/ Viva voce			
AN58.3	Enumerate cranial nerve nuclei in medulla oblongata with their functional group	K	KH	Y	Lecture	Written/ Viva voce			Physiology
AN58.4	Describe anatomical basis & effects of medial & lateral medullary syndrome	K	KH	N	Lecture	Written		General Medicine	Physiology
Topic: Pons Number of competencies: (3) Number of procedures for certification: (NIL)									
AN59.1	Identify external features of pons	K/S	SH	Y	Lecture, DOAP session	Written/ Viva voce/ skill assessment			Physiology
AN59.2	Draw & label transverse section of pons at the upper and lower level	K	KH	Y	Lecture	Written/ Viva voce			
AN59.3	Enumerate cranial nerve nuclei in pons with their functional group	K	KH	Y	Lecture	Written/ Viva voce			
Topic: Cerebellum Number of competencies: (3) Number of procedures for certification: (NIL)									
AN60.1	Describe & demonstrate external & internal features of cerebellum	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN60.2	Describe connections of cerebellar cortex and intracerebellar nuclei	K	KH	Y	Lecture	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN60.3	Describe anatomical basis of cerebellar dysfunction	K	KH	N	Lecture	Written		General Medicine	Physiology
Topic: Midbrain Number of competencies: (3) Number of procedures for certification: (NIL)									
AN61.1	Identify external & internal features of midbrain	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			
AN61.2	Describe internal features of midbrain at the level of superior & inferior colliculus	K	KH	Y	Lecture	Written/ Viva voce			
AN61.3	Describe anatomical basis & effects of Benedikt's and Weber's syndrome	K	KH	N	Lecture	Written		General Medicine	Physiology
Topic: Cranial nerve nuclei & Cerebral hemispheres Number of competencies: (6) Number of procedures for certification: (NIL)									
AN62.1	Enumerate cranial nerve nuclei with its functional component	K	KH	Y	Lecture	Written/ Viva voce			
AN62.2	Describe & demonstrate surfaces, sulci, gyri, poles, & functional areas of cerebral hemisphere	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Medicine	Physiology
AN62.3	Describe the white matter of cerebrum	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN62.4	Enumerate parts & major connections of basal ganglia & limbic lobe	K	KH	Y	Lecture	Written/ Viva voce			Physiology
AN62.5	Describe boundaries, parts, gross relations, major nuclei and connections of dorsal thalamus, hypothalamus, epithalamus, metathalamus and subthalamus	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN62.6	Describe & identify formation, branches & major areas of distribution of circle of Willis	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Medicine	Physiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Ventricular System		Number of competencies: (2)			Number of procedures for certification: (NIL)				
AN63.1	Describe & demonstrate parts, boundaries & features of IIIrd, IVth & lateral ventricle	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			Physiology
AN63.2	Describe anatomical basis of congenital hydrocephalus	K	KH	N	Lecture	Written		Pediatrics	Physiology
Topic: Histology & Embryology		Number of competencies: (3)			Number of procedures for certification: (NIL)				
AN64.1	Describe & identify the microanatomical features of Spinal cord, Cerebellum & Cerebrum	K/S	SH	Y	Lecture, Practical	Written/ skill assessment			
AN64.2	Describe the development of neural tube, spinal cord, medulla oblongata, pons, midbrain, cerebral hemisphere & cerebellum	K	KH	Y	Lecture	Written/ Viva voce			
AN64.3	Describe various types of open neural tube defects with its embryological basis	K	KH	N	Lecture	Written/ Viva voce		Obstetrics & Gynaecology, Pediatrics	
Topic: Epithelium histology		Number of competencies: (2)			Number of competencies for certification: (01)				
AN65.1	Identify epithelium under the microscope & describe the various types that correlate to its function	K/S	P	Y	Lecture, Practical	Written/ skill assessment	1		
AN65.2	Describe the ultrastructure of epithelium	K	KH	N	Lecture, Practical	Written			
Topic: Connective tissue histology		Number of competencies: (2)			Number of procedures for certification: (NIL)				
AN66.1	Describe & identify various types of connective tissue with functional correlation	K/S	SH	Y	Lecture, Practical	Written/ skill assessment			Physiology
AN66.2	Describe the ultrastructure of connective tissue	K	KH	N	Lecture, Practical	Written		Pathology	
Topic: Muscle histology		Number of competencies: (3)			Number of procedures for certification: (NIL)				

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN67.1	Describe & identify various types of muscle under the microscope	K/S	SH	Y	Lecture, Practical	Written/ skill assessment			
AN67.2	Classify muscle and describe the structure-function correlation of the same	K	KH	Y	Lecture, Practical	Written			Physiology
AN67.3	Describe the ultrastructure of muscular tissue	K	KH	N	Lecture, Practical	Written			
Topic: Nervous tissue histology Number of competencies: (3) Number of procedures for certification: (NIL)									
AN68.1	Describe & Identify multipolar & unipolar neuron, ganglia, peripheral nerve	K/S	SH	Y	Lecture, Practical	Written/ skill assessment			
AN68.2	Describe the structure-function correlation of neuron	K	KH	Y	Lecture, Practical	Written			Physiology
AN68.3	Describe the ultrastructure of nervous tissue	K	KH	N	Lecture, Practical	Written			
Topic: Blood Vessels Number of competencies: (3) Number of procedures for certification: (NIL)									
AN69.1	Identify elastic & muscular blood vessels, capillaries under the microscope	K/S	SH	Y	Lecture, Practical	Skill assessment			
AN69.2	Describe the various types and structure-function correlation of blood vessel	K	KH	Y	Lecture, Practical	Written			Physiology
AN69.3	Describe the ultrastructure of blood vessels	K	KH	Y	Lecture, Practical	Written			
Topic: Glands & Lymphoid tissue Number of competencies: (2) Number of procedures for certification: (NIL)									
AN70.1	Identify exocrine gland under the microscope & distinguish between serous, mucous and mixed acini	K/S	SH	Y	Lecture, Practical	Written/ skill assessment		Pathology	
AN70.2	Identify the lymphoid tissue under the microscope & describe microanatomy of lymph node, spleen, thymus, tonsil and correlate the structure with function	K/S	SH	Y	Lecture, Practical	Written/ skill assessment		Pathology	
Topic: Bone & Cartilage Number of competencies: (2) Number of procedures for certification: (NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN71.1	Identify bone under the microscope; classify various types and describe the structure-function correlation of the same	K/S	SH	Y	Lecture, Practical	Written/ skill assessment		Pathology	
AN71.2	Identify cartilage under the microscope & describe various types and structure- function correlation of the same	K/S	SH	Y	Lecture, Practical	Written/ skill assessment		Pathology	
Topic: Integumentary System Number of competencies: (1) Number of procedures for certification: (NIL)									
AN72.1	Identify the skin and its appendages under the microscope and correlate the structure with function	K/S	SH	Y	Lecture, Practical	Written/ skill assessment			
Topic: Chromosomes Number of competencies: (3) Number of procedures for certification: (NIL)									
AN73.1	Describe the structure of chromosomes with classification	K	KH	Y	Lecture	Written			
AN73.2	Describe technique of karyotyping with its applications	K	KH	Y	Lecture	Written			
AN73.3	Describe the Lyon's hypothesis	K	KH	Y	Lecture	Written			
Topic: Patterns of Inheritance Number of competencies: (4) Number of procedures for certification: (NIL)									
AN74.1	Describe the various modes of inheritance with examples	K	KH	Y	Lecture	Written		General Medicine, Pediatrics	
AN74.2	Draw pedigree charts for the various types of inheritance & give examples of diseases of each mode of inheritance	K	KH	Y	Lecture	Written		General Medicine, Pediatrics	
AN74.3	Describe multifactorial inheritance with examples	K	KH	Y	Lecture	Written		General Medicine	
AN74.4	Describe the genetic basis & clinical features of Achondroplasia, Cystic Fibrosis, Vitamin D resistant rickets, Haemophilia, Duchene's muscular dystrophy & Sickle cell anaemia	K	KH	N	Lecture	Written		General Medicine, Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Principle of Genetics, Chromosomal Aberrations & Clinical Genetics Number of competencies: (5) Number of procedures for certification: (NIL)									
AN75.1	Describe the structural and numerical chromosomal aberrations	K	KH	Y	Lecture	Written		Pediatrics	
AN75.2	Explain the terms mosaics and chimeras with example	K	KH	N	Lecture	Written		Pediatrics	
AN75.3	Describe the genetic basis & clinical features of Prader Willi syndrome, Edward syndrome & Patau syndrome	K	KH	N	Lecture	Written		Pediatrics	
AN75.4	Describe genetic basis of variation: polymorphism and mutation	K	KH	Y	Lecture	Written		Pediatrics	
AN75.5	Describe the principles of genetic counselling	K	KH	Y	Lecture	Written		Pediatrics, Obstetrics & Gynaecology	
Topic: Introduction to embryology Number of competencies: (2) Number of procedures for certification: (NIL)									
AN76.1	Describe the stages of human life	K	KH	Y	Lecture	Written			
AN76.2	Explain the terms- phylogeny, ontogeny, trimester, viability	K	KH	Y	Lecture	written			
Topic: Gametogenesis and fertilization Number of competencies: (6) Number of procedures for certification: (NIL)									
AN77.1	Describe the uterine changes occurring during the menstrual cycle	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN77.2	Describe the synchrony between the ovarian and menstrual cycles	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN77.3	Describe spermatogenesis and oogenesis along with diagrams	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN77.4	Describe the stages and consequences of fertilisation	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN77.5	Enumerate and describe the anatomical principles underlying contraception	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN77.6	Describe teratogenic influences; fertility and sterility, surrogate motherhood, social significance of “sex-ratio”.	K	KH	N	Lecture	Written		Obstetrics & Gynaecology	
Topic: Second week of development Number of competencies: (5) Number of procedures for certification: (NIL)									
AN78.1	Describe cleavage and formation of blastocyst	K	KH	Y	Lecture	Written			
AN78.2	Describe the development of trophoblast	K	KH	Y	Lecture	Written			
AN78.3	Describe the process of implantation & common abnormal sites of implantation	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN78.4	Describe the formation of extra-embryonic mesoderm and coelom, bilaminar disc and prochordal plate	K	KH	Y	Lecture	Written			
AN78.5	Describe in brief abortion; decidual reaction, pregnancy test	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
Toic: 3rd to 8th week of development Number of competencies: (6) Number of procedures for certification: (NIL)									
AN79.1	Describe the formation & fate of the primitive streak	K	KH	Y	Lecture	Written			
AN79.2	Describe formation & fate of notochord	K	KH	Y	Lecture	Written			
AN79.3	Describe the process of neurulation	K	KH	Y	Lecture	Written			
AN79.4	Describe the development of somites and intra-embryonic coelom	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN79.5	Explain embryological basis of congenital malformations, nucleus pulposus, sacrococcygeal teratomas, neural tube defects	K	KH	N	Lecture	Written		Obstetrics & Gynaecology	
AN79.6	Describe the diagnosis of pregnancy in first trimester and role of teratogens, alpha-fetoprotein	K	KH	N	Lecture	Written		Obstetrics & Gynaecology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Fetal membranes Number of competencies: (7) Number of procedures for certification: (NIL)									
AN80.1	Describe formation, functions & fate of-chorion: amnion; yolk sac; allantois & decidua	K	KH	Y	Lecture	Written			
AN80.2	Describe formation & structure of umbilical cord	K	KH	Y	Lecture	Written			
AN80.3	Describe formation of placenta, its physiological functions, foetomaternal circulation & placental barrier	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN80.4	Describe embryological basis of twinning in monozygotic & dizygotic twins	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN80.5	Describe role of placental hormones in uterine growth & parturition	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN80.6	Explain embryological basis of estimation of fetal age.	K	KH	N	Lecture	Written		Obstetrics & Gynaecology	
AN80.7	Describe various types of umbilical cord attachments	K	KH	N	Lecture	Written		Obstetrics & Gynaecology	
Topic: Prenatal Diagnosis Number of competencies: (3) Number of procedures for certification: (NIL)									
AN81.1	Describe various methods of prenatal diagnosis	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN81.2	Describe indications, process and disadvantages of amniocentesis	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN81.3	Describe indications, process and disadvantages of chorion villus biopsy	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
Topic: Ethics in Anatomy Number of competencies: (1) Number of procedures for certification: (NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN 82.1	Demonstrate respect and follow the correct procedure when handling cadavers and other biologic tissue	S	SH	Y	Group Activity	NIL		AETCOM	
	Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation								
Integration									
Physiology									
PY3.1	Describe the structure and functions of a neuron and neuroglia; Discuss Nerve Growth Factor & other growth factors/cytokines	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY3.7	Describe the different types of muscle fibres and their structure	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY3.13	Describe muscular dystrophy: myopathies	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	Human Anatomy
PY4.1	Describe the structure and functions of digestive system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY5.1	Describe the functional Anatomy of heart including chambers, sounds; and Pacemaker tissue and conducting system.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY5.6	Describe abnormal ECG, arrhythmias, heart block and myocardial Infarction	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	Human Anatomy
PY9.1	Describe and discuss sex determination; sex differentiation and their abnormalities and outline psychiatry and practical implication of sex determination.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY10.1	Describe and discuss the organization of nervous system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
PY10.2	Describe and discuss the functions and properties of synapse, reflex, receptors	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY10.3	Describe and discuss somatic sensations & sensory tracts	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY10.4	Describe and discuss motor tracts, mechanism of maintenance of tone, control of body movements, posture and equilibrium & vestibular apparatus	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY10.5	Describe and discuss structure and functions of reticular activating system, autonomic nervous system (ANS)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY10.6	Describe and discuss Spinal cord, its functions, lesion & sensory disturbances	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY10.7	Describe and discuss functions of cerebral cortex, basal ganglia, thalamus, hypothalamus, cerebellum and limbic system and their abnormalities	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Psychiatry	Human Anatomy
PY10.11	Demonstrate the correct clinical examination of the nervous system: Higher functions, Sensory system, motor system, reflexes, Cranial Nerves in a normal volunteer or simulated environment	S	P	Y	DOAP sessions	Skill assessment / Viva voce / OSCE	1 each (total 5)		Human Anatomy
Biochemistry									
BI6.13	Describe the functions of the kidney, liver, thyroid and adrenal glands	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
BI6.14	Describe the tests that are commonly done in clinical practice to assess the functions of these organs (kidney, liver, thyroid and adrenal glands).	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
BI6.15	Describe the abnormalities of kidney, liver, thyroid and adrenal glands	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
Pathology									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
PA28.10	Describe the etiology, pathogenesis, pathology, laboratory findings, distinguishing features progression and complications of acute and chronic pyelonephritis and reflux nephropathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, General Surgery	
PA31.1	Classify and describe the types, etiology, pathogenesis, pathology and hormonal dependency of benign breast disease	K	KH	Y	Lecture, Small group	Written/ Viva voce		Human Anatomy, General Surgery	
PA32.1	Enumerate, classify and describe the etiology, pathogenesis, pathology and iodine dependency of thyroid swellings	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology, General Medicine, General Surgery	
PA32.9	Describe the etiology, pathogenesis, manifestations, laboratory and morphologic features of adrenal neoplasms	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology, General Medicine, General Surgery	
PA33.1	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of osteomyelitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Orthopedics	Microbiology
Forensic Medicine & Toxicology									
FM2.28	Describe and discuss signs of intrauterine death, signs of live birth, viability of foetus, age determination of foetus, DOAP session of ossification centres, Hydrostatic test, Sudden infants death syndrome and Munchausen's syndrome by proxy.	K	KH	Y	Lectures, Small group discussion, Autopsy, DOAP session	Written/Viva voce/ OSCE		Pediatrics, Human Anatomy	
FM3.1	Identification Define and describe Corpus Delicti, establishment of identity of living persons including race, Sex, religion, complexion, stature, age determination using morphology, teeth-eruption, decay, bite marks, bones ossification centres, medico-legal aspects of age.	K	KH	Y	Lectures, Small group discussion, Bedside clinic, DOAP session	Written/ Viva voce/skill assessment		Human Anatomy	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
Anesthesiology									
AS4.2	Describe the Anatomy of the airway and its implications for general anaesthesia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
AS5.2	Describe the correlative Anatomy of the brachial plexus, subarachnoid and epidural spaces	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
AS5.3	Observe and describe the principles and steps/ techniques involved in peripheral nerve blocks	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Human Anatomy	
AS8.1	Describe the anatomical correlates and physiologic principles of pain	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Human Anatomy Physiology	
ENT									
EN1.1	Describe the Human Anatomy & physiology of ear, nose, throat, head & neck.	K	KH	Y	Lecture, Small group discission, DOAP session	Written/ Viva voce/Skill assessment		Human Anatomy	
Ophthalmology									
OP2.1	Enumerate the causes, describe and discuss the aetiology, clinical presentations and diagnostic features of common conditions of the lid and adnexa including Hordeolum externum/ internum, blepharitis, preseptal cellulitis, dacryocystitis, hemangioma, dermoid, ptosis, entropion, lid lag, lagophthalmos	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
OP4.1	Enumerate describe and discuss the types and causes of corneal ulceration	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
OP6.7	Enumerate and discuss the aetiology, the clinical distinguishing features of various glaucomas associated with shallow and deep anterior chamber. Choose appropriate investigations and treatment for patients with above conditions.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OP7.1	Describe the surgical anatomy and the metabolism of the lens	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Human Anatomy	
OP8.1	Discuss the aetiology, pathology, clinical features and management of vascular occlusions of the retina	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Pathology	
Dentistry									
DE1.1	Enumerate the parts of the tooth	K	K	N	Lecture, Small group discussion	Viva voce		Human Anatomy	
DE5.1	Enumerate the parts of the tooth and supporting structures	K	K	N	Lecture, Small group discussion	Viva voce		Human Anatomy	
General Medicine									
IM3.1	Define discuss describe and distinguish community acquired pneumonia, nosocomial pneumonia and aspiration pneumonia	K	K	Y	Lecture, Small Group discussion	short note/ Viva voce		Human Anatomy, Pathology, Microbiology	
IM13.9	Demonstrate in a mannequin the correct technique for performing breast exam, rectal examination and cervical examination and pap smear	S	K	Y	Bedside clinic	Skill assessment/ short case		Human Anatomy	General Surgery
IM17.1	Define and classify headache and describe the presenting features, precipitating factors, aggravating and relieving factors of various kinds of headache	K	KH	Y	Lecture, Small group discussion	short note/ Viva voce		Human Anatomy	
IM18.1	Describe the functional and the vascular anatomy of the brain	K	KH	Y	Lecture, Small Group discussion	Written/ Viva voce		Human Anatomy	
IM19.1	Describe the functional anatomy of the locomotor system of the brain	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Human Anatomy, Physiology	
Obstetrics & Gynaecology									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OG2.1	Describe and discuss the development and anatomy of the female reproductive tract, relationship to other pelvic organs, applied anatomy as related to Obstetrics and Gynaecology.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		Human Anatomy	
OG4.1	Describe and discuss the basic embryology of fetus , factors influencing fetal growth and development, anatomy and physiology of placenta, and teratogenesis	K	K	Y	Lecture, Small group discussion	Theory		Human Anatomy	
OG14.1	Enumerate and discuss the diameters of maternal pelvis and types	K	KH	Y	Lecture, Small group discussion, Bedside clinic, DOAP session	Written/ Viva voce/ skill assessment		Human Anatomy	
General Surgery									
SU19.1	Describe the etiology and classification of cleft lip and palate	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU19.2	Describe the Principles of reconstruction of cleft lip and palate	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU22.1	Describe the Applied anatomy, and physiology of thyroid	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU22.5	Describe the applied anatomy of parathyroid.	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU23.1	Describe the applied anatomy of adrenal glands	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU24.1	Describe the clinical features, principles of investigation, prognosis and management of pancreatitis.	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
SU25.1	Describe applied anatomy appropriate investigations for breast disease	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU28.2	Describe the clinical features, investigations and principles of management of congenital anomalies of Genitourinary system.	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU28.5	Describe the applied anatomy and physiology of esophagus	K	K	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce		Human Anatomy, Physiology	
SU28.7	Describe the applied anatomy and physiology of stomach.	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU28.10	Describe the applied anatomy of liver. Describe the Clinical features, Investigations and principles of management of Liver abscess, hydatid disease, Injuries and Tumors of the liver.	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU28.11	Describe the applied anatomy of Spleen. Describe the clinical features, Investigations and principles of management of splenic injuries. Describe the Post-splenectomy sepsis- prophylaxis.	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU28.12	Describe the applied anatomy of biliary system. Describe the clinical features, investigations and principles of management of diseases of biliary system.	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU28.13	Describe the applied anatomy of small and large intestines	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU28.16	Describe applied anatomy including congenital anomalies of the rectum and anal canal	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
SU30.2	Describe the applied anatomy, clinical features, investigations and principles of management of Undescended testis.	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU30.3	Describe the applied anatomy, clinical features, investigations and principles of management of Epididymo-orchitis	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU30.4	Describe the applied anatomy, clinical features, investigations and principles of management of Varicocele	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
SU30.5	Describe the applied anatomy, clinical features, investigations and principles of management of Hydrocele	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
Orthopaedics									
OR2.1	Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fracture of clavicle	K/S	KH/SH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE	1	Human Anatomy	
OR2.2	Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fractures of proximal humerus	K	K/KH/SH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.3	Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of supra condylar fracture of humerus	K	KH/SH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.4	Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of fracture of shaft of humerus and intercondylar fracture humerus with emphasis on neurovascular deficit	K/S	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.5	Describe and discuss the aetiopathogenesis, clinical features, mechanism of injury, investigation & principles of management of fractures of both bones forearm and Galeazzi and Monteggia injury	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OR2.6	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of distal radius	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.7	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of pelvic injuries with emphasis on hemodynamic instability	K	K/KH/SH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.8	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of spine injuries with emphasis on mobilisation of the patient	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.9	Describe and discuss the mechanism of injury, Clinical features, investigations and principle of management of acetabular fracture	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.10	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of proximal femur	K/S/A/C	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.11	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of (a) Fracture patella (b) Fracture distal femur © Fracture proximal tibia with special focus on neurovascular injury and compartment syndrome	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.12	Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of Fracture shaft of femur in all age groups and the recognition and management of fat embolism as a complication	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.13	Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of: (a) Fracture both bones leg (b) Calcaneus (c) Small bones of foot	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.14	Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of ankle fractures	K/S/C	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Teaching-Learning Methods	Assessment Methods	Number required to certify P	Vertical Integration	Horizontal Integration
OR2.15	Plan and interpret the investigations to diagnose complications of fractures like malunion, non-union, infection, compartmental syndrome	K/S	SH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE	2	Human Anatomy	
OR2.16	Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of open fractures with focus on secondary infection, prevention and management	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR11.1	Describe and discuss the aetiopathogenesis, Clinical features, Investigations and principles of management of peripheral nerve injuries in diseases like foot drop, wrist drop, claw hand, palsies of Radial, Ulnar, Median, Lateral Popliteal and Sciatic Nerves	K	K/H	Y	Lecture, Small Group discussion, case discussion	Written/ Viva voce/ OSCE		Human Anatomy	General Medicine, General surgery
OR12.1	Describe and discuss the Clinical features, Investigations and principles of management of Congenital and acquired malformations and deformities of: a. limbs and spine - Scoliosis and spinal bifida b. Congenital dislocation of Hip, Torticollis, c. congenital talipes equino varus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ OSCE		Human Anatomy	
Physical Medicine & Rehabilitation									
PM2.1	Describe the causes of disability in the patient with a cerebrovascular accident	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	General Medicine
PM3.1	Describe and discuss the clinical features, types, evaluation, diagnosis and management of cerebral palsy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	Pediatrics
Pediatrics									
PE32.1	Discuss the genetic basis, risk factors, complications, prenatal diagnosis, management and genetic counselling in Down's Syndrome	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	

PHYSIOLOGY (CODE: PY)

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PHYSIOLOGY									
Topic: General Physiology Number of competencies: (09) Number of procedures that require certification : (NIL)									
PY1.1	Describe the structure and functions of a mammalian cell	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY1.2	Describe and discuss the principles of homeostasis	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY1.3	Describe intercellular communication	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY1.4	Describe apoptosis – programmed cell death	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Pathology	
PY1.5	Describe and discuss transport mechanisms across cell membranes	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY1.6	Describe the fluid compartments of the body, its ionic composition & measurements	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry
PY1.7	Describe the concept of pH & Buffer systems in the body	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry
PY1.8	Describe and discuss the molecular basis of resting membrane potential and action potential in excitable tissue	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY1.9	Demonstrate the ability to describe and discuss the methods used to demonstrate the functions of the cells and its products, its communications and their applications in Clinical care and research.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
Topic: Haematology Number of competencies: (13) Number of procedures that require certification: (NIL)									

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PY2.1	Describe the composition and functions of blood components	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY2.2	Discuss the origin, forms, variations and functions of plasma proteins	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry
PY2.3	Describe and discuss the synthesis and functions of Haemoglobin and explain its breakdown. Describe variants of haemoglobin	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry
PY2.4	Describe RBC formation (erythropoiesis & its regulation) and its functions	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY2.5	Describe different types of anaemias & Jaundice	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Pathology	Biochemistry
PY2.6	Describe WBC formation (granulopoiesis) and its regulation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY2.7	Describe the formation of platelets, functions and variations.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY2.8	Describe the physiological basis of hemostasis and, anticoagulants. Describe bleeding & clotting disorders (Hemophilia, purpura)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Pathology	
PY2.9	Describe different blood groups and discuss the clinical importance of blood grouping, blood banking and transfusion	K	KH	Y	Lecture, Small group discussion, ECE- Visit to blood bank	Written/Viva voce		Pathology	
PY2.10	Define and classify different types of immunity. Describe the development of immunity and its regulation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY2.11	Estimate Hb, RBC, TLC, RBC indices, DLC, Blood groups, BT/CT	S	SH	Y	DOAP sessions	Practical/OSPE/Viva voce		Pathology	
PY2.12	Describe test for ESR, Osmotic fragility, Hematocrit. Note the findings and interpret the test results etc	K	KH	Y	Demonstration	Written /Viva voce		Pathology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PY2.13	Describe steps for reticulocyte and platelet count	K	KH	Y	Demonstration sessions	Written /Viva voce		Pathology	
Topic: Nerve and Muscle Physiology Number of competencies: (18) Number of procedures that require certification: (NIL)									
PY3.1	Describe the structure and functions of a neuron and neuroglia; Discuss Nerve Growth Factor & other growth factors/cytokines	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY3.2	Describe the types, functions & properties of nerve fibers	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY3.3	Describe the degeneration and regeneration in peripheral nerves	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
PY3.4	Describe the structure of neuro-muscular junction and transmission of impulses	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Anaesthesiology	
PY3.5	Discuss the action of neuro-muscular blocking agents	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Anaesthesiology, Pharmacology	
PY3.6	Describe the pathophysiology of Myasthenia gravis	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Pathology	
PY3.7	Describe the different types of muscle fibres and their structure	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY3.8	Describe action potential and its properties in different muscle types (skeletal & smooth)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY3.9	Describe the molecular basis of muscle contraction in skeletal and in smooth muscles	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY3.10	Describe the mode of muscle contraction (isometric and isotonic)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY3.11	Explain energy source and muscle metabolism	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PY3.12	Explain the gradation of muscular activity	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
PY3.13	Describe muscular dystrophy: myopathies	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	Human Anatomy
PY3.14	Perform Ergography	S	SH	Y	DOAP sessions	Practical/OSPE/Viva voce			
PY3.15	Demonstrate effect of mild, moderate and severe exercise and record changes in cardiorespiratory parameters	S	SH	Y	DOAP sessions	Practical/OSPE/Viva voce			
PY3.16	Demonstrate Harvard Step test and describe the impact on induced physiologic parameters in a simulated environment	S	SH	Y	DOAP sessions	Practical/OSPE/Viva voce			
PY3.17	Describe Strength-duration curve	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY3.18	Observe with Computer assisted learning (i) amphibian nerve - muscle experiments (ii) amphibian cardiac experiments	S	KH	Y	Demonstration, Computer assisted learning methods	Practical / Viva voce			
Topic: Gastro-intestinal Physiology Number of competencies: (10) Number of procedures that require certification: (NIL)									
PY4.1	Describe the structure and functions of digestive system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY4.2	Describe the composition, mechanism of secretion, functions, and regulation of saliva, gastric, pancreatic, intestinal juices and bile secretion	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry
PY4.3	Describe GIT movements, regulation and functions. Describe defecation reflex. Explain role of dietary fibre.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY4.4	Describe the physiology of digestion and absorption of nutrients	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PY4.5	Describe the source of GIT hormones, their regulation and functions	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY4.6	Describe the Gut-Brain Axis	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY4.7	Describe & discuss the structure and functions of liver and gall bladder	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry
PY4.8	Describe & discuss gastric function tests, pancreatic exocrine function tests & liver function tests	K	KH	Y	Lecture, Small group discussion, Demonstration Esophageal Manometry & endoscopy	Written/Viva voce			Biochemistry
PY4.9	Discuss the physiology aspects of: peptic ulcer, gastro-oesophageal reflux disease, vomiting, diarrhoea, constipation, Adynamic ileus, Hirschsprung's disease	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	Biochemistry
PY4.10	Demonstrate the correct clinical examination of the abdomen in a normal volunteer or simulated environment	S	SH	Y	DOAP session	Skill assessment/ Viva voce/OSCE			
Topic: Cardiovascular Physiology (CVS) Number of competencies: (16) Number of procedures that require certification: (03)									
PY5.1	Describe the functional anatomy of heart including chambers, sounds; and Pacemaker tissue and conducting system.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY5.2	Describe the properties of cardiac muscle including its morphology, electrical, mechanical and metabolic functions	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY5.3	Discuss the events occurring during the cardiac cycle	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY5.4	Describe generation, conduction of cardiac impulse	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY5.5	Describe the physiology of electrocardiogram (E.C.G), its applications and the cardiac axis	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PY5.6	Describe abnormal ECG, arrhythmias, heart block and myocardial Infarction	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	Human Anatomy
PY5.7	Describe and discuss haemodynamics of circulatory system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY5.8	Describe and discuss local and systemic cardiovascular regulatory mechanisms	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY5.9	Describe the factors affecting heart rate, regulation of cardiac output & blood pressure	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY5.10	Describe & discuss regional circulation including microcirculation, lymphatic circulation, coronary, cerebral, capillary, skin, foetal, pulmonary and splanchnic circulation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
PY5.11	Describe the patho-physiology of shock, syncope and heart failure	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY5.12	Record blood pressure & pulse at rest and in different grades of exercise and postures in a volunteer or simulated environment	S	SH	Y	DOAP sessions	Practical/OSPE/ Viva voce	1 each x 3		
PY5.13	Record and interpret normal ECG in a volunteer or simulated environment	S	SH	Y	DOAP sessions	Practical/OSPE/ Viva voce		General Medicine	
PY5.14	Observe cardiovascular autonomic function tests in a volunteer or simulated environment	S	SH	N	DOAP sessions	Skill assessment/ Viva voce			
PY5.15	Demonstrate the correct clinical examination of the cardiovascular system in a normal volunteer or simulated environment	S	SH	Y	DOAP sessions	Practical/OSPE/ Viva voce			
PY5.16	Record Arterial pulse tracing using finger plethysmography in a volunteer or simulated environment	S	SH	N	DOAP sessions, Computer assisted learning methods	Practical/OSPE/ Viva voce		General Medicine	
Topic: Respiratory Physiology Number of competencies: (10) Number of procedures that require certification: (01)									

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PY6.1	Describe the functional anatomy of respiratory tract	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY6.2	Describe the mechanics of normal respiration, pressure changes during ventilation, lung volume and capacities, alveolar surface tension, compliance, airway resistance, ventilation, V/P ratio, diffusion capacity of lungs	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY6.3	Describe and discuss the transport of respiratory gases: Oxygen and Carbon dioxide	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY6.4	Describe and discuss the physiology of high altitude and deep sea diving	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY6.5	Describe and discuss the principles of artificial respiration, oxygen therapy, acclimatization and decompression sickness.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY6.6	Describe and discuss the pathophysiology of dyspnoea, hypoxia, cyanosis asphyxia; drowning, periodic breathing	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY6.7	Describe and discuss lung function tests & their clinical significance	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY6.8	Demonstrate the correct technique to perform & interpret Spirometry	S	SH	Y	DOAP sessions	Skill assessment/ Viva voce		Respiratory Medicine	
PY6.9	Demonstrate the correct clinical examination of the respiratory system in a normal volunteer or simulated environment	S	P	Y	DOAP sessions	Skill assessment/ Viva voce/OSCE	1		
PY6.10	Demonstrate the correct technique to perform measurement of peak expiratory flow rate in a normal volunteer or simulated environment	S	SH	Y	DOAP sessions	Practical/OSPE/ Viva voce			
Topic: Renal Physiology Number of competencies: (09) Number of procedures that require certification: (NIL)									
PY7.1	Describe structure and function of kidney	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY7.2	Describe the structure and functions of juxta glomerular apparatus and role of renin-angiotensin system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PY7.3	Describe the mechanism of urine formation involving processes of filtration, tubular reabsorption & secretion; concentration and diluting mechanism	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY7.4	Describe & discuss the significance & implication of Renal clearance	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY7.5	Describe the renal regulation of fluid and electrolytes & acid-base balance	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY7.6	Describe the innervations of urinary bladder, physiology of micturition and its abnormalities	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY7.7	Describe artificial kidney, dialysis and renal transplantation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
PY7.8	Describe & discuss Renal Function Tests	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry
PY7.9	Describe cystometry and discuss the normal cystometrogram	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
Topic: Endocrine Physiology Number of competencies: (06) Number of procedures that require certification : (NIL)									
PY8.1	Describe the physiology of bone and calcium metabolism	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY8.2	Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of pituitary gland, thyroid gland, parathyroid gland, adrenal gland, pancreas and hypothalamus	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY8.3	Describe the physiology of Thymus & Pineal Gland	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY8.4	Describe function tests: Thyroid gland; Adrenal cortex, Adrenal medulla and pancreas	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PY8.5	Describe the metabolic and endocrine consequences of obesity & metabolic syndrome, Stress response. Outline the psychiatry component pertaining to metabolic syndrome.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY8.6	Describe & differentiate the mechanism of action of steroid, protein and amine hormones	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
Topic: Reproductive Physiology Number of competencies: (12) Number of procedures that require certification: (NIL)									
PY9.1	Describe and discuss sex determination; sex differentiation and their abnormalities and outline psychiatry and practical implication of sex determination.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY9.2	Describe and discuss puberty: onset, progression, stages; early and delayed puberty and outline adolescent clinical and psychological association.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY9.3	Describe male reproductive system: functions of testis and control of spermatogenesis & factors modifying it and outline its association with psychiatric illness	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY9.4	Describe female reproductive system: (a) functions of ovary and its control; (b) menstrual cycle - hormonal, uterine and ovarian changes	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY9.5	Describe and discuss the physiological effects of sex hormones	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY9.6	Enumerate the contraceptive methods for male and female. Discuss their advantages & disadvantages	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Obstetrics & Gynaecology, Community Medicine	
PY9.7	Describe and discuss the effects of removal of gonads on physiological functions	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PY9.8	Describe and discuss the physiology of pregnancy, parturition & lactation and outline the psychology and psychiatry-disorders associated with it.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Obstetrics & Gynaecology	
PY9.9	Interpret a normal semen analysis report including (a) sperm count, (b) sperm morphology and (c) sperm motility, as per WHO guidelines and discuss the results	K	KH	Y	Lecture, Small group discussion	OSPE/Viva voce			
PY9.10	Discuss the physiological basis of various pregnancy tests	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Obstetrics & Gynaecology	
PY9.11	Discuss the hormonal changes and their effects during perimenopause and menopause	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Obstetrics & Gynaecology	
PY9.12	Discuss the common causes of infertility in a couple and role of IVF in managing a case of infertility.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Obstetrics & Gynaecology	
Topic: Neurophysiology Number of competencies: (20) Number of procedures that require certification: (09)									
PY10.1	Describe and discuss the organization of nervous system	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY10.2	Describe and discuss the functions and properties of synapse, reflex, receptors	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY10.3	Describe and discuss somatic sensations & sensory tracts	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY10.4	Describe and discuss motor tracts, mechanism of maintenance of tone, control of body movements, posture and equilibrium & vestibular apparatus	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY10.5	Describe and discuss structure and functions of reticular activating system, autonomic nervous system (ANS)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy
PY10.6	Describe and discuss Spinal cord, its functions, lesion & sensory disturbances	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Human Anatomy

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PY10.7	Describe and discuss functions of cerebral cortex, basal ganglia, thalamus, hypothalamus, cerebellum and limbic system and their abnormalities	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Psychiatry	Human Anatomy
PY10.8	Describe and discuss behavioural and EEG characteristics during sleep and mechanism responsible for its production	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Psychiatry	
PY10.9	Describe and discuss the physiological basis of memory, learning and speech	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Psychiatry	
PY10.10	Describe and discuss chemical transmission in the nervous system. (Outline the psychiatry element).	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY10.11	Demonstrate the correct clinical examination of the nervous system: Higher functions, sensory system, motor system, reflexes, cranial nerves in a normal volunteer or simulated environment	S	P	Y	DOAP sessions	Skill assessment/ Viva voce/OSCE	1 each (total 5)		Human Anatomy
PY10.12	Identify normal EEG forms	S	S	Y	Small group teaching	OSPE/Viva voce		Psychiatry	
PY10.13	Describe and discuss perception of smell and taste sensation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		ENT	
PY10.14	Describe and discuss patho-physiology of altered smell and taste sensation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		ENT	
PY10.15	Describe and discuss functional anatomy of ear and auditory pathways & physiology of hearing	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		ENT	
PY10.16	Describe and discuss pathophysiology of deafness. Describe hearing tests	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		ENT	
PY10.17	Describe and discuss functional anatomy of eye, physiology of image formation, physiology of vision including colour vision, refractive errors, colour blindness, physiology of pupil and light reflex	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Ophthalmology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PY10.18	Describe and discuss the physiological basis of lesion in visual pathway	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Ophthalmology	
PY10.19	Describe and discuss auditory & visual evoke potentials	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Ophthalmology	
PY10.20	Demonstrate (i) Testing of visual acuity, colour and field of vision and (ii) hearing (iii) Testing for smell and (iv) taste sensation in volunteer/ simulated environment	S	P	Y	DOAP sessions	Skill assessment/ Viva voce	1 each (total 4)	ENT, Ophthalmology	
Topic: Integrated Physiology Number of competencies: (14) Number of procedures that require certification: (NIL)									
PY11.1	Describe and discuss mechanism of temperature regulation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY11.2	Describe and discuss adaptation to altered temperature (heat and cold)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY11.3	Describe and discuss mechanism of fever, cold injuries and heat stroke	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY11.4	Describe and discuss cardio-respiratory and metabolic adjustments during exercise; physical training effects	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY11.5	Describe and discuss physiological consequences of sedentary lifestyle	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY11.6	Describe physiology of Infancy	K	KH	N	Lecture, Small group discussion	Written/Viva voce		Pediatrics	
PY11.7	Describe and discuss physiology of aging; free radicals and antioxidants	K	KH	N	Lecture, Small group discussion	Written/Viva voce			
PY11.8	Discuss & compare cardio-respiratory changes in exercise (isometric and isotonic) with that in the resting state and under different environmental conditions (heat and cold)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PY11.9	Interpret growth charts	K	KH	N	Small group teaching	Practical/OSPE/ Viva voce		Pediatrics	
PY11.10	Interpret anthropometric assessment of infants	K	KH	N	Small group teaching	Practical/OSPE/ Viva voce		Pediatrics	
PY11.11	Discuss the concept, criteria for diagnosis of Brain death and its implications	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
PY11.12	Discuss the physiological effects of meditation	K	KH	N	Lecture, Small group discussion	Written/Viva voce			
PY11.13	Obtain history and perform general examination in the volunteer / simulated environment	S	SH	Y	DOAP sessions	Skill assessment/ Viva voce			
PY11.14	Demonstrate Basic Life Support in a simulated environment	S	SH	Y	DOAP sessions	OSCE		General Medicine, Anaesthesiology	

Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication.
Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently,
Column F: DOAP session – Demonstrate, Observe, Assess, Perform.
Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation

Integration

Human Anatomy									
AN3.1	Classify muscle tissue according to structure & action	K	KH	Y	Lecture	Written/ Viva voce			Physiology
AN5.1	Differentiate between blood vascular and lymphatic system	K	KH	Y	Lecture	Written/ Viva voce			Physiology
AN5.2	Differentiate between pulmonary and systemic circulation	K	KH	Y	Lecture	Written/ Viva voce			Physiology
AN5.6	Describe the concept of anastomoses and collateral circulation with significance of end-arteries	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN5.7	Explain function of meta-arterioles, precapillary sphincters, arterio-venous anastomoses	K	KH	N	Lecture	Written			Physiology
AN5.8	Define thrombosis, infarction & aneurysm	K	KH	N	Lecture	Written		Pathology	Physiology

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN7.2	List components of nervous tissue and their functions	K	KH	Y	Lecture	Written/ Viva voce			Physiology
AN7.3	Describe parts of a neuron and classify them based on number of neurites, size & function	K	KH	Y	Lecture	Written/ Viva voce			Physiology
AN7.5	Describe principles of sensory and motor innervation of muscles	K	KH	N	Lecture	Written		General Medicine	Physiology
AN7.7	Describe various types of synapse	K	KH	N	Lecture	Written			Physiology
AN21.9	Describe & demonstrate mechanics and types of respiration	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/Viva voce/ skill assessment			Physiology
AN22.2	Describe & demonstrate external and internal features of each chamber of heart	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/Viva voce/ skill assessment			Physiology
AN22.3	Describe & demonstrate origin, course and branches of coronary arteries	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/Viva voce/ skill assessment			Physiology
AN22.4	Describe anatomical basis of ischaemic heart disease	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN22.7	Mention the parts, position and arterial supply of the conducting system of heart	K	KH	Y	Lecture	Written		General Medicine	Physiology
AN24.1	Mention the blood supply, lymphatic drainage and nerve supply of pleura, extent of pleura and describe the pleural recesses and their applied anatomy	K	KH	Y	Practical, Lecture	Written/ Viva voce		General Medicine	Physiology
AN24.2	Identify side, external features and relations of structures which form root of lung & bronchial tree and their clinical correlate	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Medicine	Physiology
AN24.3	Describe a bronchopulmonary segment	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN25.3	Describe fetal circulation and changes occurring at birth	K	KH	Y	Lecture	Written		General Medicine	Physiology
AN25.4	Describe embryological basis of: 1) atrial septal defect, 2) ventricular septal defect, 3) Fallot's tetralogy & 4) tracheo-oesophageal fistula	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Physiology
AN25.5	Describe developmental basis of congenital anomalies, transposition of great vessels, dextrocardia, patent ductus arteriosus and coarctation of aorta	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Physiology
AN25.9	Demonstrate surface marking of lines of pleural reflection, Lung borders and fissures, Trachea, Heart borders, Apex beat & Surface projection of valves of heart	K/S	SH	Y	Practical	Viva voce/ skill assessment		General Medicine, Pediatrics	Physiology
AN56.2	Describe circulation of CSF with its applied anatomy	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN57.4	Enumerate ascending & descending tracts at mid thoracic level of spinal cord	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN57.5	Describe anatomical basis of syringomyelia	K	KH	N	Lecture	Written		General Medicine	Physiology
AN58.3	Enumerate cranial nerve nuclei in medulla oblongata with their functional group	K	KH	Y	Lecture	Written/ Viva voce			Physiology
AN58.4	Describe anatomical basis & effects of medial & lateral medullary syndrome	K	KH	N	Lecture	Written		General Medicine	Physiology
AN59.1	Identify external features of pons	K/S	SH	Y	Lecture, DOAP session	Written/ Viva voce/ skill assessment			Physiology
AN60.3	Describe anatomical basis of cerebellar dysfunction	K	KH	N	Lecture	Written		General Medicine	Physiology
AN61.3	Describe anatomical basis & effects of Benedikt's and Weber's syndromme	K	KH	N	Lecture	Written		General Medicine	Physiology
AN62.2	Describe & demonstrate surfaces, sulci, gyri, poles, & functional areas of cerebral hemisphere	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Medicine	Physiology

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN62.3	Describe the white matter of cerebrum	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN62.4	Enumerate parts & major connections of basal ganglia & limbic lobe	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN62.5	Describe boundaries, parts, gross relations, major nuclei and connections of dorsal thalamus, hypothalamus, epithalamus, metathalamus and subthalamus	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN62.6	Describe & identify formation, branches & major areas of distribution of circle of Willis	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		General Medicine	Physiology
AN63.1	Describe & demonstrate parts, boundaries & features of IIIrd, IVth & lateral ventricle	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment			Physiology
AN63.2	Describe anatomical basis of congenital hydrocephalus	K	KH	N	Lecture	Written		Pediatrics	Physiology
AN66.1	Describe & identify various types of connective tissue with functional correlation	K/S	SH	Y	Lecture, Practical	Written/ skill assessment			Physiology
AN67.2	Classify muscle and describe the structure-function correlation of the same	K	KH	Y	Lecture, Practical	Written			Physiology
AN68.2	Describe the structure-function correlation of neuron	K	KH	Y	Lecture, Practical	Written			Physiology
AN69.2	Describe the various types and structure-function correlation of blood vessel	K	KH	Y	Lecture, Practical	Written			Physiology
Biochemistry									
BI1.1	Describe the molecular and functional organization of a cell and its sub-cellular components.	K	KH	Y	Lecture, Small group discussions	Written assessment and Viva voce			Physiology

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
BI3.7	Describe the common poisons that inhibit crucial enzymes of carbohydrate metabolism (eg; fluoride, arsenate)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Physiology
BI5.2	Describe and discuss functions of proteins and structure-function relationships in relevant areas eg, hemoglobin and selected hemoglobinopathies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology
BI6.3	Describe the common disorders associated with nucleotide metabolism.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Physiology
BI6.7	Describe the processes involved in maintenance of normal pH, water & electrolyte balance of body fluids and the derangements associated with these.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Physiology
BI6.9	Describe the functions of various minerals in the body, their metabolism and homeostasis.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Physiology
BI6.11	Describe the functions of haem in the body and describe the processes involved in its metabolism and describe porphyrin metabolism.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology
BI6.12	Describe the major types of haemoglobin and its derivatives found in the body and their physiological/ pathological relevance.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology
BI6.13	Describe the functions of the kidney, liver, thyroid and adrenal glands.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
BI6.14	Describe the tests that are commonly done in clinical practice to assess the functions of these organs (kidney, liver, thyroid and adrenal glands).	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
BI6.15	Describe the abnormalities of kidney, liver, thyroid and adrenal glands.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
BI10.4	Describe & discuss innate and adaptive immune responses, self/non-self recognition and the central role of T-helper cells in immune responses.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pathology	Physiology
BI11.4	Perform urine analysis to estimate and determine normal and abnormal constituents	S	P	Y	DOAP session	Skill assessment	1	General Medicine	Physiology

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Pathology									
PA26.3	Define and describe the etiology, types, pathogenesis, stages, morphology and complications and evaluation of Obstructive airway disease (OAD) and bronchiectasis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	Microbiology
PA27.3	Describe the etiology, types, stages pathophysiology pathology and complications of heart failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Physiology	
PA27.8	Interpret abnormalities in cardiac function testing in acute coronary syndromes	S	SH	Y	DOAP session	Skill Assessment		Physiology, General Medicine	
PA27.9	Classify and describe the etiology, types, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of cardiomyopathies	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Physiology	
PA28.5	Define and classify glomerular diseases. Enumerate and describe the etiology, pathogenesis, mechanisms of glomerular injury, pathology, distinguishing features and clinical manifestations of glomerulonephritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.1	Enumerate, classify and describe the etiology, pathogenesis, pathology and iodine dependency of thyroid swellings	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology, General Medicine, General Surgery	
PA32.2	Describe the etiology, cause, iodine dependency, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.3	Describe the etiology, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis/ hypothyroidism	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.4	Classify and describe the epidemiology, etiology, pathogenesis, pathology, clinical laboratory features, complications and progression of diabetes mellitus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.5	Describe the etiology, genetics, pathogenesis, manifestations, laboratory and morphologic features of hyperparathyroidism	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PA32.7	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of adrenal insufficiency	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.8	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of Cushing's syndrome	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.9	Describe the etiology, pathogenesis, manifestations, laboratory and morphologic features of adrenal neoplasms	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology, General Medicine, General Surgery	

Pharmacology

PH1.15	Describe mechanism/s of action, types, doses, side effects, indications and contraindications of skeletal muscle relaxants	K	KH	Y	Lecture	Written/ Viva voce		Anesthesiology, Physiology	
PH1.19	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs which act on CNS, (including anxiolytics, sedatives & hypnotics, antipsychotic, antidepressant drugs, anti-manics, opioid agonists and antagonists, drugs used for neurodegenerative disorders, antiepileptics Drugs)	K	KH	Y	Lecture	Written/ Viva voce		Psychiatry, Physiology	
PH1.25	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs acting on blood, like anticoagulants, antiplatelets, fibrinolytics, plasma expanders	K	KH	Y	Lecture	Written/ Viva voce		Physiology, General Medicine	
PH1.26	Describe mechanisms of action, types, doses, side effects, indications and contraindications of the drugs modulating the renin angiotensin and aldosterone system	K	KH	Y	Lecture	Written/ Viva voce		Physiology, General Medicine	
PH1.35	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of drugs used in hematological disorders like: 1. Drugs used in anemias 2. Colony Stimulating factors	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Physiology	Pharmacology

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Forensic Medicine & Toxicology									
FM14.7	Demonstrate & identify that a particular stain is blood and identify the species of its origin.	S	KH	Y	Small group discussion, Lecture	Log book/ skill station/ Viva voce		Pathology, Physiology	
FM14.8	Demonstrate the correct technique to perform and identify ABO & Rh blood group of a person.	S	SH	Y	Small group discussion, DOAP session	Log book/ skill station/ Viva voce		Pathology, Physiology	
Anesthesiology									
AS7.3	Observe and describe the management of an unconscious patient	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Physiology	General Medicine
AS7.4	Observe and describe the basic setup process of a ventilator	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Physiology	General Medicine
AS8.1	Describe the anatomical correlates and physiologic principles of pain	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Human Anatomy, Physiology	
AS8.2	Elicit and determine the level, quality and quantity of pain and its tolerance in patient or surrogate	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Physiology	
Ophtalmology									
OP1.1	Describe the physiology of vision.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology	
General Medicine									
IM1.1	Describe and discuss the epidemiology, pathogenesis clinical evolution and course of common causes of heart disease including: rheumatic/ valvular, ischemic, hypertrophic inflammatory.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM1.2	Describe and discuss the genetic basis of some forms of heart failure	K	KH	N	Lecture, Small group discussion	Written		Pathology, Physiology	
IM1.3	Describe and discuss the aetiology microbiology pathogenies and clinical evolution of rheumatic fever, criteria, degree of rheumatic activity and rheumatic valvular heart disease and its complications including infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology, Microbiology	
IM1.4	Stage heart failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.5	Describe discuss and differentiate the processes involved in R Vs L heart failure, systolic vs diastolic failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.6	Describe and discuss the compensatory mechanisms involved in heart failure including cardiac remodelling and neurohormonal adaptations	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.7	Enumerate, describe and discuss the factors that exacerbate heart failure including ischemia, arrhythmias anemia, thyrotoxicosis, dietary factors drugs etc.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.8	Describe and discuss the pathogenesis and development of common arrhythmias involved in heart failure particularly atrial fibrillation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM2.1	Discuss and describe the epidemiology, antecedents and risk factors for atherosclerosis and ischemic heart disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology Community Medicine	
IM2.2	Discuss the aetiology of risk factors both modifiable and non modifiable of atherosclerosis and IHD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM2.3	Discuss and describe the lipid cycle and the role of dyslipidemia in the pathogenesis of atherosclerosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	
IM2.4	Discuss and describe the pathogenesis, natural history, evolution and complications of atherosclerosis and IHD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM5.1	Describe and discuss the physiologic and biochemical basis of hyperbilirubinemia	K	K	Y	Lecture, Small group discussion	Written/Viva voce		Pathology, Physiology	
IM5.2	Describe and discuss the aetiology and pathophysiology of liver injury	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM8.1	Describe and discuss the epidemiology, aetiology and the prevalence of primary and secondary hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM8.2	Describe and discuss the pathophysiology of hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM11.22	Enumerate the causes of hypoglycaemia and describe the counter hormone response and the initial approach and treatment.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM12.1	Describe the epidemiology and pathogenesis of hypothyroidism and hyperthyroidism including the influence of iodine deficiency and autoimmunity in the pathogenesis of thyroid disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM12.3	Describe and discuss the physiology of the hypothalamopituitary - thyroid axis, principles of thyroid function testing and alterations in physiologic function	K	K	Y	Lecture, Small group discussion	short notes		Pathology, Physiology	
IM15.3	Describe and discuss the physiologic effects of acute blood and volume loss	K	K	Y	Lecture, Small group discussions	short note/ Viva voce		Pathology, Physiology	General Surgery
IM18.6	Distinguish the lesion based on upper vs lower motor neuron, side, site and most probable nature of the lesion	K/S	SH	Y	Bedside clinic, DOAP session	Skill Assessment		Physiology	
IM18.7	Describe the clinical features and distinguish, based on clinical examination, the various disorders of speech	K/S	SH	N	Bedside clinic, DOAP session	Skill Assessment		Physiology	
IM18.8	Describe and distinguish, based on the clinical presentation, the types of bladder dysfunction seen in CNS disease	K	KH	Y	Small group discussion, Bedside clinic	Written/ Viva voce		Physiology	
IM19.1	Describe the functional anatomy of the locomotor system of the brain	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Human Anatomy, Physiology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM22.1	Enumerate the causes of hypercalcemia and distinguish the features of PTH vs non PTH mediated hypercalcemia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM22.9	Enumerate the causes and describe the clinical and laboratory features of metabolic acidosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology	
IM22.10	Enumerate the causes of describe the clinical and laboratory features of metabolic alkalosis	K	KH	N	Lecture, small group discussion	Written/ Viva voce		Physiology	
IM22.11	Enumerate the causes and describe the clinical and laboratory features of respiratory acidosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology	
IM22.12	Enumerate the causes and describe the clinical and laboratory features of respiratory alkalosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology	
IM22.13	Identify the underlying acid based disorder based on an ABG report and clinical situation	S	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology	
IM23.1	Discuss and describe the methods of nutritional assessment in an adult and calculation of caloric requirements during illnesses	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM23.2	Discuss and describe the causes and consequences of protein caloric malnutrition in the hospital	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM23.3	Discuss and describe the aetiology, causes, clinical manifestations, complications, diagnosis and management of common vitamin deficiencies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM23.4	Enumerate the indications for enteral and parenteral nutrition in critically ill patients	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM24.22	Describe and discuss the aetiopathogenesis, clinical presentation, complications, assessment and management of nutritional disorders in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	
Obstetrics & Gynaecology									
OG3.1	Describe the physiology of ovulation, menstruation, fertilization, implantation and gametogenesis	K	K	Y	Lecture, seminars	Theory		Physiology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OG7.1	Describe and discuss the changes in the genital tract, cardiovascular system, respiratory, haematology, renal and gastrointestinal systems in pregnancy	K	KH	Y	Lecture, seminars	Theory		Physiology	
Pediatrics									
PE7.2	Explain the physiology of lactation	K	KH	Y	Lecture, small group discussion	Written/ Viva voce		Physiology	
PE7.3	Describe the composition and types of breast milk and discuss the differences between cow's milk and human milk	K	KH	Y	Lecture, debate	Written/ Viva voce		Physiology	
PE10.1	Define, describe the etio-pathogenesis, classify including WHO classification, clinical features, complication and management of severe Acute Malnourishment and Moderate Acute Malnutrition	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology Biochemistry	
PE10.2	Outline the clinical approach to a child with SAM and MAM	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	
PE10.3	Assessment of a patient with SAM and MAM, diagnosis, classification and planning management including hospital and community based intervention, rehabilitation and prevention	S	SH	Y	Bed side clinics, Skill Lab	Skill station		Physiology, Biochemistry	
PE11.1	Describe the common etiology, clinical features and management of Obesity in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry, Pathology	
PE11.2	Discuss the risk approach for obesity and discuss the prevention strategies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
PE12.7	Describe the causes, clinical features, diagnosis and management of Deficiency / excess of Vitamin D (Rickets and Hypervitaminosis D	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Physiology, Pathology	
PE12.8	Identify the clinical features of dietary deficiency of Vitamin D	S	P	Y	Bedside clinics, Skills lab	Document in log book	3	Biochemistry Physiology Pathology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PE12.9	Assess patients with Vitamin D deficiency, diagnose, classify and plan management	S	SH	Y	Bed side clinics	Document in log book		Biochemistry, Physiology, Pathology	
PE12.13	Discuss the RDA, dietary sources of Vitamin K and their role in health and disease	K	K	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Physiology, Pathology	
PE12.14	Describe the causes, clinical features, diagnosis, management and prevention of Deficiency of Vitamin K	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Physiology, Pathology	
PE23.1	Discuss the Hemodynamic changes, clinical presentation, complications and management of Acyanotic Heart Diseases –VSD, ASD and PDA	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology Pathology	
PE23.2	Discuss the Hemodynamic changes, clinical presentation, complications and management of Cyanotic Heart Diseases – Fallot's Physiology	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology Pathology	
PE23.3	Discuss the etio-pathogenesis, clinical presentation and management of cardiac failure in infant and children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology Pathology	
PE23.4	Discuss the etio-pathogenesis, clinical presentation and management of Acute Rheumatic Fever in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology Pathology	
PE23.5	Discuss the clinical features, complications, diagnosis, management and prevention of Acute Rheumatic Fever	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology Pathology	
PE23.6	Discuss the etio-pathogenesis and clinical features and management of Infective endocarditis in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology, Microbiology	
PE29.1	Discuss the etio-pathogenesis, Clinical features, classification and approach to a child with anaemia	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Pathology, Physiology	
PE29.2	Discuss the etio-pathogenesis, clinical features and management of Iron Deficiency anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PE29.3	Discuss the etiopathogenesis, Clinical features and management of VIT B12, Folate deficiency anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
PE29.4	Discuss the etio-pathogenesis, clinical features and management of Hemolytic anemia, Thalassemia Major, Sickle cell anaemia, Hereditary spherocytosis, Auto-immune hemolytic anaemia and hemolytic uremic syndrome	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology Physiology	

General Surgery

SU1.1	Describe basic concepts of homeostasis, enumerate the metabolic changes in injury and their mediators	K	KH	Y	Lecture, Bed side clinic and Small group discussion	Written/ Viva voce		Physiology, Biochemistry	
SU2.1	Describe Pathophysiology of shock. Types of shock. Principles of resuscitation including fluid replacement and monitoring	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
SU4.1	Elicit, document and present history in a case of Burns and perform physical examination. Describe Pathophysiology of Burns.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology	
SU12.1	Enumerate the causes and consequences of malnutrition in the surgical patient.	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce		Physiology	
SU12.2	Describe and Discuss the methods of estimation and replacement the Fluid and electrolyte requirements in the surgical patient	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce		Physiology	
SU28.5	Describe the applied Anatomy and physiology of esophagus	K	K	Y	Lecture, Small group Discussion, Demonstration	Written/ Viva voce		Human Anatomy, Physiology	

Respiratory Medicine

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
CT2.1	Define and classify obstructive airway disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
CT2.2	Describe and discuss the epidemiology risk factors and evolution of obstructive airway disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
CT2.4	Describe and discuss the physiology and pathophysiology of hypoxia and hypercapnea	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
CT2.5	Describe and discuss the genetics of alpha 1 antitrypsin deficiency in emphysema	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
CT2.11	Describe, discuss and interpret pulmonary function tests	S	SH	Y	Bed side clinic, DOAP session	Skill assessment		Physiology, Pathology	

BIOCHEMISTRY (CODE: BI)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
BIOCHEMISTRY									
Topic: Basic Biochemistry		Number of competencies: (01)			Number of procedures that require certification: (NIL)				
BI1.1	Describe the molecular and functional organization of a cell and its sub-cellular components.	K	KH	Y	Lecture, Small group discussion	Written assessment/ Viva voce			Physiology
Topic: Enzyme		Number of competencies: (07)			Number of procedures that require certification: (NIL)				
BI2.1	Explain fundamental concepts of enzyme, isoenzyme, alloenzyme, coenzyme & co-factors. Enumerate the main classes of IUBMB nomenclature.	K	KH	Y	Lecture, case discussion	Written assessment/ Viva voce			
BI2.2	Observe the estimation of SGOT & SGPT	K	K	Y	Demonstration	Viva voce			
BI2.3	Describe and explain the basic principles of enzyme activity	K	KH	Y	Lecture, case discussion	Written/ Viva voce			
BI2.4	Describe and discuss enzyme inhibitors as poisons and drugs and as therapeutic enzymes	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Pathology, General Medicine	
BI2.5	Describe and discuss the clinical utility of various serum enzymes as markers of pathological conditions.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Pathology, General Medicine	
BI2.6	Discuss use of enzymes in laboratory investigations (Enzyme-based assays)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	
BI2.7	Interpret laboratory results of enzyme activities & describe the clinical utility of various enzymes as markers of pathological conditions.	K	KH	Y	Lecture, Small group discussion, DOAP sessions	Written/ Viva voce		Pathology, General Medicine	
Topic: Chemistry and Metabolism of Carbohydrates		Number of competencies: (10)			Number of procedures that require certification: (NIL)				
BI3.1	Discuss and differentiate monosaccharides, di-saccharides and polysaccharides giving examples of main carbohydrates as energy fuel, structural element and storage in the human body	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
BI3.2	Describe the processes involved in digestion and assimilation of carbohydrates and storage.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
BI3.3	Describe and discuss the digestion and assimilation of carbohydrates from food.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
BI3.4	Define and differentiate the pathways of carbohydrate metabolism, (glycolysis, gluconeogenesis, glycogen metabolism, HMP shunt).	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
BI3.5	Describe and discuss the regulation, functions and integration of carbohydrate along with associated diseases/disorders.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
BI3.6	Describe and discuss the concept of TCA cycle as a amphibolic pathway and its regulation.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			
BI3.7	Describe the common poisons that inhibit crucial enzymes of carbohydrate metabolism (eg; fluoride, arsenate)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Physiology
BI3.8	Discuss and interpret laboratory results of analytes associated with metabolism of carbohydrates.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Pathology, General Medicine	
BI3.9	Discuss the mechanism and significance of blood glucose regulation in health and disease.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
BI3.10	Interpret the results of blood glucose levels and other laboratory investigations related to disorders of carbohydrate metabolism.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
Topic: Chemistry and Metabolism of Lipids Number of competencies: (07) Number of procedures that require certification: (NIL)									
BI4.1	Describe and discuss main classes of lipids (Essential/non-essential fatty acids, cholesterol and hormonal steroids, triglycerides, major phospholipids and sphingolipids) relevant to human system and their major functions.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
BI4.2	Describe the processes involved in digestion and absorption of dietary lipids and also the key features of their metabolism	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
BI4.3	Explain the regulation of lipoprotein metabolism & associated disorders.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI4.4	Describe the structure and functions of lipoproteins, their functions, interrelations & relations with atherosclerosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI4.5	Interpret laboratory results of analytes associated with metabolism of lipids	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI4.6	Describe the therapeutic uses of prostaglandins and inhibitors of eicosanoid synthesis.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI4.7	Interpret laboratory results of analytes associated with metabolism of lipids.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Chemistry and Metabolism of Proteins Number of competencies: (05) Number of procedures that require certification: (NIL)									
BI5.1	Describe and discuss structural organization of proteins.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI5.2	Describe and discuss functions of proteins and structure-function relationships in relevant areas eg, hemoglobin and selected hemoglobinopathies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology
BI5.3	Describe the digestion and absorption of dietary proteins.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
BI5.4	Describe common disorders associated with protein metabolism.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
BI5.5	Interpret laboratory results of analytes associated with metabolism of proteins.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Metabolism and homeostasis Number of competencies: (15) Number of procedures that require certification: (NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
BI6.1	Discuss the metabolic processes that take place in specific organs in the body in the fed and fasting states.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI6.2	Describe and discuss the metabolic processes in which nucleotides are involved.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI6.3	Describe the common disorders associated with nucleotide metabolism.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Physiology
BI6.4	Discuss the laboratory results of analytes associated with gout & Lesch Nyhan syndrome.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI6.5	Describe the biochemical role of vitamins in the body and explain the manifestations of their deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI6.6	Describe the biochemical processes involved in generation of energy in cells.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI6.7	Describe the processes involved in maintenance of normal pH, water & electrolyte balance of body fluids and the derangements associated with these.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Physiology
BI6.8	Discuss and interpret results of Arterial Blood Gas (ABG) analysis in various disorders.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI6.9	Describe the functions of various minerals in the body, their metabolism and homeostasis.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Physiology
BI6.10	Enumerate and describe the disorders associated with mineral metabolism.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI6.11	Describe the functions of haem in the body and describe the processes involved in its metabolism and describe porphyrin metabolism.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
BI6.12	Describe the major types of haemoglobin and its derivatives found in the body and their physiological/ pathological relevance.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology
BI6.13	Describe the functions of the kidney, liver, thyroid and adrenal glands.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
BI6.14	Describe the tests that are commonly done in clinical practice to assess the functions of these organs (kidney, liver, thyroid and adrenal glands).	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
BI6.15	Describe the abnormalities of kidney, liver, thyroid and adrenal glands.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
Topic: Molecular biology Number of competencies: (07) Number of procedures that require certification: (NIL)									
BI7.1	Describe the structure and functions of DNA and RNA and outline the cell cycle.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI7.2	Describe the processes involved in replication & repair of DNA and the transcription & translation mechanisms.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI7.3	Describe gene mutations and basic mechanism of regulation of gene expression.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
BI7.4	Describe applications of molecular technologies like recombinant DNA technology, PCR in the diagnosis and treatment of diseases with genetic basis.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics, General Medicine	
BI7.5	Describe the role of xenobiotics in disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI7.6	Describe the anti-oxidant defence systems in the body.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI7.7	Describe the role of oxidative stress in the pathogenesis of conditions such as cancer, complications of diabetes mellitus and atherosclerosis.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Nutrition Number of competencies: (05) Number of procedures that require certification: (NIL)									
BI8.1	Discuss the importance of various dietary components and explain importance of dietary fibre.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics, Pathology	
BI8.2	Describe the types and causes of protein energy malnutrition and its effects.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics, Pathology	
BI8.3	Provide dietary advice for optimal health in childhood and adult, in disease conditions like diabetes mellitus, coronary artery disease and in pregnancy.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI8.4	Describe the causes (including dietary habits), effects and health risks associated with being overweight/ obesity.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pathology	
BI8.5	Summarize the nutritional importance of commonly used items of food including fruits and vegetables.(macro-molecules & its importance)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, General Medicine, Pediatrics	
Topic: Extracellular Matrix Number of competencies: (03) Number of procedures that require certification: (NIL)									
BI9.1	List the functions and components of the extracellular matrix (ECM).	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI9.2	Discuss the involvement of ECM components in health and disease.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI9.3	Describe protein targeting & sorting along with its associated disorders.	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			
Topic: Oncogenesis and immunity Number of competencies: (05) Number of procedures that require certification: (NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
BI10.1	Describe the cancer initiation, promotion oncogenes & oncogene activation. Also focus on p53 & apoptosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, General Surgery, Pathology	
BI10.2	Describe various biochemical tumor markers and the biochemical basis of cancer therapy.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, General Surgery, Pathology	
BI10.3	Describe the cellular and humoral components of the immune system & describe the types and structure of antibody	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, General Surgery, Pathology	
BI10.4	Describe & discuss innate and adaptive immune responses, self/non-self recognition and the central role of T-helper cells in immune responses.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pathology	Physiology
BI10.5	Describe antigens and concepts involved in vaccine development.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Pediatrics, Microbiology	
Topic: Biochemical Laboratory Tests Number of competencies: (24) Number of procedures that require certification: (05)									
BI11.1	Describe commonly used laboratory apparatus and equipments, good safe laboratory practice and waste disposal.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI11.2	Describe the preparation of buffers and estimation of pH.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI11.3	Describe the chemical components of normal urine.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI11.4	Perform urine analysis to estimate and determine normal and abnormal constituents	S	P	Y	DOAP session	Skill assessment	1	General Medicine	Physiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
BI11.5	Describe screening of urine for inborn errors & describe the use of paper chromatography	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI11.6	Describe the principles of colorimetry	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI11.7	Demonstrate the estimation of serum creatinine and creatinine clearance	S	P	Y	Practical	Skills assessment	1		
BI11.8	Demonstrate estimation of serum proteins, albumin and A:G ratio	S	P	Y	Practical	Skills assessment	1		
BI11.9	Demonstrate the estimation of serum total cholesterol and HDL-cholesterol	S	P	Y	Practical	Skills assessment			
BI11.10	Demonstrate the estimation of triglycerides	S	P	Y	Practical	Skills assessment			
BI11.11	Demonstrate estimation of calcium and phosphorous	S	P	Y	Practical	Skills assessment			
BI11.12	Demonstrate the estimation of serum bilirubin	S	P	Y	Practical	Skills assessment			
BI11.13	Demonstrate the estimation of SGOT/ SGPT	S	P	Y	Practical	Skills assessment			
BI11.14	Demonstrate the estimation of alkaline phosphatase	S	P	Y	Practical	Skills assessment			
BI11.15	Describe & discuss the composition of CSF	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
BI11.16	Observe use of commonly used equipments/techniques in biochemistry laboratory including: meter •Paper chromatography of amino acid •Protein electrophoresis •TLC, PAGE •Electrolyte analysis by ISE •ABG analyzer •ELISA •Immunodiffusion •Autoanalyser •Quality control •DNA isolation from blood/ tissue	S	KH	Y	Demonstration	Skill assessment			
BI11.17	Explain the basis and rationale of biochemical tests done in the following conditions: - diabetes mellitus, - dyslipidemia, - myocardial infarction, - renal failure, gout, - proteinuria, - nephrotic syndrome, - edema, - jaundice, - liver diseases, pancreatitis, disorders of acid- base balance, thyroid disorders.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pathology	
BI11.18	Discuss the principles of spectrophotometry.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI11.19	Outline the basic principles involved in the functioning of instruments commonly used in a biochemistry laboratory and their applications.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
BI11.20	Identify abnormal constituents in urine, interpret the findings and correlate these with pathological states.	S	SH	Y	DOAP sessions	Skill assessment	1		

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
BI11.21	Demonstrate estimation of glucose, creatinine, urea and total protein in serum.	S	SH	Y	DOAP sessions	Skill assessment	1		
BI11.22	Calculate albumin: globulin (AG) ratio and creatinine clearance	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI11.23	Calculate energy content of different food Items, identify food items with high and low glycemic index and explain the importance of these in the diet	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI11.24	Enumerate advantages and/or disadvantages of use of unsaturated, saturated and trans fats in food.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation									
Integration									
Physiology									
PY3.11	Explain energy source and muscle metabolism	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry
PY4.2	Describe the composition, mechanism of secretion, functions, and regulation of saliva, gastric, pancreatic, intestinal juices and bile secretion	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry
PY4.4	Describe the physiology of digestion and absorption of nutrients	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry
PY4.7	Describe & discuss the structure and functions of liver and gall bladder	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PY4.8	Describe & discuss gastric function tests, pancreatic exocrine function tests & liver function tests	K	KH	Y	Lecture, Small group discussion, Demonstration Esophageal Manometry & endoscopy	Written/Viva voce			Biochemistry
PY4.9	Discuss the physiology aspects of: peptic ulcer, gastro-oesophageal reflux disease, vomiting, diarrhoea, constipation, Adynamic ileus, Hirschsprung's disease	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	Biochemistry
PY7.8	Describe & discuss Renal Function Tests	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry
PY8.4	Describe function tests: Thyroid gland; Adrenal cortex, Adrenal medulla and pancreas	K	KH	Y	Lecture, Small group discussion	Written/Viva voce			Biochemistry

Pathology

PA12.2	Describe the pathogenesis of disorders caused by protein calorie malnutrition and starvation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Pediatrics	
PA14.1	Describe iron metabolism	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PA15.1	Describe the metabolism of Vitamin B12 and the etiology and pathogenesis of B12 deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA16.1	Define and classify hemolytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA16.2	Describe the pathogenesis and clinical features and hematologic indices of hemolytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA16.3	Describe the pathogenesis, features, hematologic indices and peripheral blood picture of sickle cell anemia and thalassemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA16.4	Describe the etiology, pathogenesis, hematologic indices and peripheral blood picture of Acquired hemolytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PA25.1	Describe bilirubin metabolism, enumerate the etiology and pathogenesis of jaundice, distinguish between direct and indirect hyperbilirubinemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	

Dermatology, Venereology & Leprosy

DR17.1	Enumerate and identify the cutaneous findings in Vitamin A deficiency	K/S	SH	Y	Lecture, Small group discussion, Bedside clinic	Skill assessment Viva voce		General Medicine, Pediatrics, Biochemistry	
DR17.2	Enumerate and describe the various skin changes in Vitamin B complex deficiency	K	KH	Y	Lecture	Written/ Viva voce		General Medicine Pediatrics, Biochemistry	
DR17.3	Enumerate and describe the various changes in Vitamin C deficiency	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics, Biochemistry	
DR17.4	Enumerate and describe the various changes in Zinc deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics, Biochemistry	

Ophthalmology

OP7.1	Describe the surgical anatomy and the metabolism of the lens	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Human Anatomy	
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General Medicine

IM2.3	Discuss and describe the lipid cycle and the role of dyslipidemia in the pathogenesis of atherosclerosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	
IM2.12	Choose and interpret a lipid profile and identify the desirable lipid profile in the clinical context	S	SH	Y	Bed side clinic, DOAP session	Skill assessment		Biochemistry	
IM2.18	Discuss and describe the indications, formulations, doses, side effects and monitoring for drugs used in the management of dyslipidemia	K	KH	Y	Lecture Small group discussion	Written/ Viva voce		Pharmacology, Biochemistry	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
IM11.12	Perform and interpret a capillary blood glucose test	S	P	Y	Bed side clinic, DOAP session	Skill assessment	2	Pathology, Biochemistry	
IM11.13	Perform and interpret a urinary ketone estimation with a dipstick	S	P	Y	Bed side clinic, DOAP session	Skill assessment	2	Pathology, Biochemistry	
IM13.1	Describe the clinical epidemiology and inherited & modifiable risk factors for common malignancies in India	K	K	Y	Lecture, Small group discussion	short note/ Viva voce		Pathology, Biochemistry	
IM23.1	Discuss and describe the methods of nutritional assessment in an adult and calculation of caloric requirements during illnesses	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM23.2	Discuss and describe the causes and consequences of protein caloric malnutrition in the hospital	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM23.3	Discuss and describe the aetiology, causes, clinical manifestations, complications, diagnosis and management of common vitamin deficiencies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM23.4	Enumerate the indications for enteral and parenteral nutrition in critically ill patients	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM24.22	Describe and discuss the aetiopathogenesis, clinical presentation, complications, assessment and management of nutritional disorders in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	

Pediatrics

PE9.1	Describe the age related nutritional needs of infants, children and adolescents including micronutrients and vitamins	K	KH	Y	Lecture, Small Group discussion	Written/ Viva voce		Community Medicine, Biochemistry	
PE9.3	Explains the Calorific value of common Indian foods	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE10.1	Define Describe the etio-pathogenesis , Classify including WHO classification , clinical features, complication and management of Severe Acute Malnourishment (SAM) and Moderate Acute Malnutrition (MAM)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PE10.2	Outline the clinical approach to a child with SAM and MAM	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	
PE10.3	Assessment of a patient with SAM and MAM, diagnosis, classification and planning management including hospital and community based intervention, rehabilitation and prevention	S	SH	Y	Bed side clinics, Skill Lab	Skill station		Physiology, Biochemistry	
PE11.1	Describe the common etiology, clinical features and management of Obesity in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry, Pathology	
PE12.1	Discuss the (RDA) , dietary sources of Vitamin A and their role in Health and disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.2	Describe the causes, clinical features, diagnosis and management of Deficiency / excess of Vitamin A	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.3	Identify the clinical features of dietary deficiency / excess of Vitamin A	S	SH	Y	Bed side clinics, Small group discussion	Document in log book		Biochemistry	
PE12.4	Diagnose patients with Vitamin A deficiency, Classify and plan management	S	SH	N	Bed side clinics, Skill Station	Document in log book		Biochemistry	
PE12.5	Discuss the Vitamin A prophylaxis program and their recommendations	K	K	Y	Lecture, Small group Discussion	Written/ Viva voce		Biochemistry	
PE12.6	Discuss the RDA, dietary sources of Vitamin D and their role in Health and disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.7	Describe the causes, clinical features, diagnosis and management of Deficiency / excess of Vitamin D (Rickets and Hypervitaminosis D)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Physiology, Pathology	
PE12.8	Identify the clinical features of dietary deficiency of Vitamin D	S	SH	Y	Bedside clinics, Skills lab	Document in log book		Biochemistry, Physiology, Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PE12.9	Assess patients with Vitamin D deficiency, Diagnose, Classify and plan management	S	SH	Y	Bed side clinics	Document in log book		Biochemistry, Physiology, Pathology	
PE12.11	Discuss the RDA, dietary sources of Vitamin E and their role in Health and disease	K	K	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.12	Describe the causes, clinical features, diagnosis and management of deficiency of Vitamin E	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.13	Discuss the RDA , dietary sources of Vitamin K and their role in Health and disease	K	K	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Physiology, Pathology	
PE12.14	Describe the causes, clinical features, diagnosis , management and prevention of Deficiency of Vitamin K	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Physiology, Pathology	
PE12.15	Discuss the RDA , dietary sources of Vitamin B and their role in Health and disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.16	Describe the causes, clinical features, diagnosis and management of Deficiency of B complex Vitamins	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.17	Identify the clinical features of Vitamin B complex deficiency	S	SH	Y	Bedside clinics, Skills lab	Document in log book		Biochemistry	
PE12.18	Diagnose patients with Vitamin B complex deficiency and plan management	S	SH	Y	Bed side clinics, Skill lab	Document in log book		Biochemistry	
PE12.19	Discuss the RDA, dietary sources of Vitamin C and their role in Health and disease	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.20	Describe the causes, clinical features, diagnosis and management of Deficiency of Vitamin C (scurvy)	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.21	Identify the clinical features Vitamin C deficiency	S	SH	N	Bed side clinics, Skill lab	Document in log book		Biochemistry	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PE13.1	Discuss the RDA, dietary sources of Iron and their role in health and disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Biochemistry	
PE13.2	Describe the causes, diagnosis and management of Fe deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Biochemistry	
PE13.3	Identify the clinical features of dietary deficiency of Iron and make a diagnosis	S	SH	Y	Bed side clinics, Skill Lab	Document in log book		Pathology, Biochemistry	
PE13.4	Interpret hemogram and Iron Panel	S	SH	Y	Bed side clinic, Small group discussion	Skill Assessment		Pathology, Biochemistry	
PE13.7	Discuss the RDA , dietary sources of Iodine and their role in Health and disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE13.8	Describe the causes, clinical features, diagnosis and management of Deficiency of Iodine	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE13.9	Identify the clinical features of Iodine deficiency disorders	S	SH	N	Lecture, Bed side clinic	Written/ Viva voce		Biochemistry	
PE13.10	Discuss the National Goiter control program and their recommendations	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Community Medicine	
PE13.11	Discuss the RDA, dietary sources of Calcium and its role in Health and disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE13.12	Describe the causes, clinical features, diagnosis and management of Ca Deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE13.13	Discuss the RDA , dietary sources of Magnesium and their role in Health and disease	K	K	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE13.14	Describe the causes, clinical features, diagnosis and management of Magnesium Deficiency	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE19.1	Explain the components of the Universal immunization Program and the sub National Immunization Programs	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PE19.2	Explain the epidemiology of Vaccine preventable diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology	
PE19.3	Vaccine description with regards to Classification of vaccines, Strain used, Dose, route, schedule, Risks benefits and side effects, indications and contraindications	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology	
PE19.4	Define cold chain and discuss the methods of safe storage and handling of vaccines	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology	
PE19.5	Discuss immunization in special situations – HIV positive children, immunodeficiency, preterm, organ transplants, those who received blood and blood products, splenectomised children, Adolescents, travellers	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology	
PE21.11	Perform and interpret the common analytes in a Urine examination	S	SH	Y	Bed side clinic Labs, Skill lab	Skill assessment		Biochemistry, Pathology	
PE29.16	Discuss the Indications for Hemoglobin electrophoresis and interpret report	K	K	N	Small group discussion	Viva voce		Biochemistry	
PE33.6	Perform and interpret Urine Dip Stick for Sugar	S	P	Y	DOAP session	Skill assessment	3	Biochemistry	

General Surgery

SU1.1	Describe basic concepts of homeostasis, enumerate the metabolic changes in injury and their mediators.	K	KH	Y	Lecture, Bed side clinic and Small group discussion.	Written/ Viva voce.		Physiology, Biochemistry	
SU1.2	Describe the factors that affect the metabolic response to injury.	K	KH	Y	Lecture, Bed side clinic and Small group discussion.	Written/ Viva voce.		Biochemistry	
SU9.1	Choose appropriate biochemical, microbiological, pathological, imaging investigations and interpret the investigative data in a surgical patient.	K	KH	Y	Lecture, Small group discussion.	Written/ Viva voce		Biochemistry, Microbiology, Pathology	
SU12.3	Discuss the nutritional requirements of surgical patients, the methods of providing nutritional support and their complications.	K	KH	Y	Lecture, Small group discussion, Bedside clinic discussion	Written/ Viva voce		Biochemistry	

PHARMACOLOGY (CODE: PH)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PHARMACOLOGY									
KNOWLEDGE: Topic: Pharmacology		Number of competencies: (64)			Number of procedures that require certification : (NIL)				
PH1.1	Define and describe the principles of pharmacology and pharmacotherapeutics	K	K	Y	Lecture	Written/ Viva voce			
PH1.2	Describe the basis of Evidence based medicine and Therapeutic drug monitoring	K	KH	Y	Lecture	Written/ Viva voce			
PH1.3	Enumerate and identify drug formulations and drug delivery systems	K/S	SH	Y	Lecture, Practical	Written/ Viva voce			
PH1.4	Describe absorption, distribution, metabolism & excretion of drugs	K	KH	Y	Lecture, Small Group discussion	Written/ Viva voce			
PH1.5	Describe general principles of mechanism of drug action	K	KH	Y	Lecture, Small Group discussion	Written/ Viva voce			
PH1.6	Describe principles of Pharmacovigilance & ADR reporting systems	K	KH	Y	Lecture, Practical	Written/ Viva voce			
PH1.7	Define, identify and describe the management of adverse drug reactions (ADR)	K/S	KH	Y	Lecture, Practical	Written/ Viva voce			
PH1.8	Identify and describe the management of drug interactions	K/S	KH	Y	Lecture, Practical	Written/ Viva voce			
PH1.9	Describe nomenclature of drugs i.e. generic, branded drugs	K/S	SH	Y	Lecture, Practical	Written/ Viva voce			
PH1.10	Describe parts of a correct, complete and legible generic prescription. Identify errors in prescription and correct appropriately	K/S	SH	Y	Lecture, Practical	Written/ Viva voce			
PH1.11	Describe various routes of drug administration, eg., oral, SC, IV, IM, SL	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PH1.12	Calculate the dosage of drugs using appropriate formulae for an individual patient, including children, elderly and patient with renal dysfunction.	K/S	SH	Y	Lecture, practical	Written/ Viva voce		Pediatrics, General Medicine	
PH1.13	Describe mechanism of action, types, doses, side effects, indications and contraindications of adrenergic and anti-adrenergic drugs	K	KH	Y	Lecture, Small Group discussion	Written/ Viva voce			
PH1.14	Describe mechanism of action, types, doses, side effects, indications and contraindications of cholinergic and anticholinergic drugs	K	KH	Y	Lecture, Small Group discussion	Written/ Viva voce			
PH1.15	Describe mechanism/s of action, types, doses, side effects, indications and contraindications of skeletal muscle relaxants	K	KH	Y	Lecture	Written/ Viva voce		Anesthesiology, Physiology	
PH1.16	Describe mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs which act by modulating autacoids, including: anti-histaminics, 5-HT modulating drugs, NSAIDs, drugs for gout, anti-rheumatic drugs, drugs for migraine	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
PH1.17	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of local anesthetics	K	KH	Y	Lecture	Written/ Viva voce		Anesthesiology	
PH1.18	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of general anaesthetics, and pre-anesthetic medications	K	KH	Y	Lecture	Written/ Viva voce		Anesthesiology	
PH1.19	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs which act on CNS, (including anxiolytics, sedatives & hypnotics, anti-psychotic, anti-depressant drugs, anti-maniacs, opioid agonists and antagonists, drugs used for neurodegenerative disorders, anti-epileptics drugs)	K	KH	Y	Lecture	Written/ Viva voce		Psychiatry, Physiology	
PH1.20	Describe the effects of acute and chronic ethanol intake	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PH1.21	Describe the symptoms and management of methanol and ethanol poisonings	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PH1.22	Describe drugs of abuse (dependence, addiction, stimulants, depressants, psychedelics, drugs used for criminal offences)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	Forensic Medicine
PH1.23	Describe the process and mechanism of drug deaddiction	K/S	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
PH1.24	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs affecting renal systems including diuretics, antidiuretics- vasopressin and analogues	K	KH	Y	Lecture	Written/ Viva voce			
PH1.25	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs acting on blood, like anticoagulants, antiplatelets, fibrinolytics, plasma expanders	K	KH	Y	Lecture	Written/ Viva voce		Physiology, General Medicine	
PH1.26	Describe mechanisms of action, types, doses, side effects, indications and contraindications of the drugs modulating the renin-angiotensin and aldosterone system	K	KH	Y	Lecture	Written/ Viva voce		Physiology, General Medicine	
PH1.27	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of antihypertensive drugs and drugs used in shock	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
PH1.28	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in ischemic heart disease (stable, unstable angina and myocardial infarction), peripheral vascular disease	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
PH1.29	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in congestive heart failure	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
PH1.30	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the antiarrhythmics	K	KH	N	Lecture	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PH1.31	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in the management of dyslipidemias	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PH1.32	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of drugs used in bronchial asthma and COPD	K	KH	Y	Lecture, Small Group discussion	Written/ Viva voce		Respiratory Medicine	
PH1.33	Describe the mechanism of action, types, doses, side effects, indications and contraindications of the drugs used in cough (antitussives, expectorants/ mucolytics)	K	KH	Y	Lecture, Small Group discussion	Written/ Viva voce		Respiratory Medicine	
PH1.34	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs used as below: 1. Acid-peptic disease and GERD 2. Antiemetics and prokinetics 3. Antidiarrhoeals 4 .Laxatives 5. Inflammatory Bowel Disease 6. Irritable Bowel Disorders, biliary and pancreatic diseases	K	KH	Y	Lecture, Small Group discussion	Written/ Viva voce		General Medicine	
PH1.35	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of drugs used in hematological disorders like: 1.Drugs used in anemias 2.Colony Stimulating factors	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Physiology	Pharmacology
PH1.36	Describe the mechanism of action, types, doses, side effects, indications and contraindications of drugs used in endocrine disorders (diabetes mellitus, thyroid disorders and osteoporosis)	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
PH1.37	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used as sex hormones, their analogues and anterior Pituitary hormones	K	KH	Y	Lecture	Written/ Viva voce			
PH1.38	Describe the mechanism of action, types, doses, side effects, indications and contraindications of corticosteroids	K	KH	Y	Lecture	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PH1.39	Describe mechanism of action, types, doses, side effects, indications and contraindications the drugs used for contraception	K	KH	Y	Lecture	Written/ Viva voce		Obstetrics & Gynaecology	
PH1.40	Describe mechanism of action, types, doses, side effects, indications and contraindications of 1. Drugs used in the treatment of infertility, and 2. Drugs used in erectile dysfunction	K	KH	Y	Lecture	Written/ Viva voce		Obstetrics & Gynaecology	
PH1.41	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of uterine relaxants and stimulants	K	KH	Y	Lecture	Written/ Viva voce		Obstetrics & Gynaecology	
PH1.42	Describe general principles of chemotherapy	K	KH	Y	Lecture	Written/ Viva voce			
PH1.43	Describe and discuss the rational use of antimicrobials including antibiotic stewardship program	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Microbiology
PH1.44	Describe the first line antitubercular drugs, their mechanisms of action, side effects and doses.	K	KH	Y	Lecture	Written/ Viva voce		Respiratory Medicine	
PH1.45	Describe the drugs used in MDR and XDR Tuberculosis	K	KH	Y	Lecture	Written/ Viva voce		Respiratory Medicine	Microbiology
PH1.46	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of antileprotic drugs	K	KH	Y	Lecture	Written/ Viva voce		Dermatology, Venereology & Leprosy	Microbiology
PH1.47	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in malaria, KALA-AZAR, amebiasis and intestinal helminthiasis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Microbiology
PH1.48	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in UTI/ STD and viral diseases including HIV	K	KH	Y	Lecture	Written/Viva voce			Microbiology
PH1.49	Describe mechanism of action, classes, side effects, indications and contraindications of anticancer drugs	K	KH	Y	Lecture	Written/Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PH1.50	Describe mechanisms of action, types, doses, side effects, indications and contraindications of immunomodulators and management of organ transplant rejection	K	KH	Y	Lecture	Written/ Viva voce			
PH1.51	Describe occupational and environmental pesticides, food adulterants, pollutants and insect repellents	K	KH/	Y	Lecture	Written/ Viva voce			
PH1.52	Describe management of common poisoning, insecticides, common sting and bites	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
PH1.53	Describe heavy metal poisoning and chelating agents	K	KH	N	Lecture	Written/ Viva voce			
PH1.54	Describe vaccines and their uses	K	KH	Y	Lecture	Written/ Viva voce			
PH1.55	Describe and discuss the following National Health Programmes including Immunisation, Tuberculosis, Leprosy, Malaria, HIV, Filariasis, Kala Azar, Diarrhoeal diseases, Anaemia & nutritional disorders, Blindness, Non-communicable diseases, cancer and Iodine deficiency	K	KH	Y	Lecture	Written/ Viva voce			Community Medicine
PH1.56	Describe basic aspects of Geriatric and Pediatric pharmacology	K	KH	Y	Lecture	Written/ Viva voce		Pediatrics	
PH1.57	Describe drugs used in skin disorders	K	KH	Y	Lecture	Written/ Viva voce		Dermatology, Venereology & Leprosy	
PH1.58	Describe drugs used in Ocular disorders	K	KH	Y	Lecture	Written/ Viva voce		Ophthalmology	
PH1.59	Describe and discuss the following: Essential medicines, Fixed dose combinations, Over the counter drugs, Herbal medicines	K	KH	Y	Lecture	Written/ Viva voce			
PH1.60	Describe and discuss Pharmacogenomics and Pharmacoeconomics	K	KH	N	Lecture	Written/ Viva voce			
PH1.61	Describe and discuss dietary supplements and nutraceuticals	K	KH	N	Lecture	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PH1.62	Describe and discuss antiseptics and disinfectants	K	KH	Y	Lecture	Written/ Viva voce			
PH1.63	Describe Drug Regulations, acts and other legal aspects	K	KH	Y	Lecture	Written/ Viva voce			
PH1.64	Describe overview of drug development, Phases of clinical trials and Good Clinical Practice	K	KH	Y	Lecture	Written/ Viva voce			
SKILLS: Topic: Clinical Pharmacy Number of competencies: (04) Number of procedures that require certification : (NIL)									
PH2.1	Demonstrate understanding of the use of various dosage forms (oral/local/parenteral; solid/liquid)	S/C	SH	Y	DOAP sessions	Skills assessment			
PH2.2	Prepare oral rehydration solution from ORS packet and explain its use	S/C	SH	Y	DOAP sessions	Skills assessment			
PH2.3	Demonstrate the appropriate setting up of an intravenous drip in a simulated environment	S	SH	Y	DOAP sessions	Skills assessment			
PH2.4	Demonstrate the correct method of calculation of drug dosage in patients including those used in special situations	S	SH	Y	DOAP sessions	Skills assessment		Pediatrics, General Medicine	
SKILLS: Topic: Clinical Pharmacology Number of competencies: (08) Number of procedures that require certification : (04)									
PH3.1	Write a rational, correct and legible generic prescription for a given condition and communicate the same to the patient	S/C	P	Y	Skill station	Skill station	5	General Medicine	
PH3.2	Perform and interpret a critical appraisal (audit) of a given prescription	S	P	Y	Skill Lab	Maintenance of log book	3		
PH3.3	Perform a critical evaluation of the drug promotional literature	S	P	Y	Skill Lab	Maintenance of log book/ Skill station	3	General Medicine	
PH3.4	To recognise and report an adverse drug reaction	S	SH	Y	Skill station	Maintenance of log book/ Skill station			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PH3.5	To prepare and explain a list of P-drugs for a given case/condition	S	P	Y	Skill station	Maintenance of log book	3	General Medicine	
PH3.6	Demonstrate how to optimize interaction with pharmaceutical representative to get authentic information on drugs	S	SH	N	Skill station	maintenance of log book			
PH3.7	Prepare a list of essential medicines for a healthcare facility	S	SH	Y	Skill station	Maintenance of log book			
PH3.8	Communicate effectively with a patient on the proper use of prescribed medication	C/A	SH	Y	Skill Lab	Skill station			
SKILLS: Topic: Experimental Pharmacology Number of competencies: (02) Number of procedures that require certification :(NIL)									
PH4.1	Administer drugs through various routes in a simulated environment using mannequins	S	SH	Y	DOAP sessions	Skills assessment			
PH4.2	Demonstrate the effects of drugs on blood pressure (vasopressor and vaso-depressors with appropriate blockers) using computer aided learning	S	SH	Y	Skill lab	Skill station			
Communication Topic: Pharmacology Number of competencies: (07) Number of procedures that require certification : (NIL)									
PH5.1	Communicate with the patient with empathy and ethics on all aspects of drug use	A/C	SH	Y	Small group discussion	skill station		General Medicine	
PH5.2	Communicate with the patient regarding optimal use of a) drug therapy, b) devices and c) storage of medicines	A/C	SH	Y	Small group discussion	Skill station			
PH5.3	Motivate patients with chronic diseases to adhere to the prescribed management by the health care provider	A/C	SH	Y	Small group discussion	short note/skill station			
PH5.4	Explain to the patient the relationship between cost of treatment and patient compliance	A/C	SH	Y	Small group discussion	short note/ viva voce		General Medicine	
PH5.5	Demonstrate an understanding of the caution in prescribing drugs likely to produce dependence and recommend the line of management	K	KH	Y	Small group discussion	short note/ Viva voce		Psychiatry	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PH5.6	Demonstrate ability to educate public & patients about various aspects of drug use including drug dependence and OTC drugs	A/C	SH	Y	Small group discussion	Skill station		Psychiatry	
PH5.7	Demonstrate an understanding of the legal and ethical aspects of prescribing drugs	K	KH	Y	Small group discussion	short note/ Viva voce			Forensic Medicine

Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication.

Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently,

Column F: DOAP session – Demonstrate, Observe, Assess, Perform.

Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation

Integration

Physiology									
PY3.5	Discuss the action of neuro-muscular blocking agents	K	KH	Y	Lectures, Small group discussion	Written/ Viva voce		Anaesthesiology, Pharmacology	

Microbiology									
MI1.6	Describe the mechanisms of drug resistance, methods of antimicrobial susceptibility testing and monitoring of antimicrobial therapy.	K	K	Y	Lecture , Small group discussion	Written Viva			Pharmacology
MI3.3	Describe the enteric fever pathogens and discuss the evolution of the clinical course, the laboratory diagnosis of the diseases caused by them	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Pathology
MI3.5	Enumerate the causative agents of food poisoning and discuss the pathogenesis, clinical course and laboratory diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology
MI3.6	Describe the etio-pathogenesis of Acid Peptic Disease (APD) and the clinical course. Discuss the diagnosis and management of the causative agent of APD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Pathology

Community Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
CM3.8	Describe the mode of action & application cycle of commonly used insecticides and rodenticides	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
CM19.1	Define and describe the concept of Essential Medicine List (EML)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pharmacology
CM19.2	Describe roles of essential medicine in primary health care	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pharmacology
CM19.3	Describe counterfeit medicine and its prevention	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pharmacology

Forensic Medicine & Toxicology

FM4.11	Describe and discuss euthanasia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	Pharmacology
FM4.12	Discuss legal and ethical issues in relation to stem cell research	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	Pharmacology
FM4.17	Describe and discuss ethical Principles: Respect for autonomy, non-maleficence, beneficence & justice	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	Pharmacology
FM4.22	Explain Oath – Hippocrates, Charaka and Sushruta and procedure for administration of Oath	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	Pharmacology
FM4.23	Describe the modified Declaration of Geneva and its relevance	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	Pharmacology
FM4.25	Clinical research & Ethics: Discuss human experimentation including clinical trials	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		AETCOM	Pharmacology
FM4.26	Discuss the constitution and functions of ethical committees	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	Pharmacology
FM4.27	Describe and discuss Ethical Guidelines for Biomedical Research on Human Subjects & Animals	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		AETCOM	Pharmacology
FM8.1	Describe the history of Toxicology	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM8.2	Define the terms Toxicology, Forensic Toxicology, Clinical Toxicology and poison	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
FM8.3	Describe the various types of poisons, Toxicokinetics & Toxicodynamics and diagnosis of poisoning in living and dead	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
FM8.4	Describe the Laws in relations to poisons including NDPS Act, Medico-legal aspects of poisons	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
FM8.5	Describe Medico-legal autopsy in cases of poisoning including preservation and dispatch of viscera for chemical analysis	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce/ OSPE		Pharmacology	
FM8.6	Describe the general symptoms, principles of diagnosis and management of common poisons encountered in India	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce /OSCE		Pharmacology	
FM8.7	Describe simple Bedside clinic tests to detect poison/drug in a patient's body fluids	K	K/KH	Y	Lectures, Small group discussion, Bed side clinic, DOAP session	Written/ Viva voce /OSCE		Pharmacology, General Medicine	
FM8.8	Describe basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination	K	K/KH	Y	Lectures, Small group discussion, Bed side clinic, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM9.1	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Caustics Inorganic – sulphuric, nitric, and hydrochloric acid Organic- Carbolic Acid (phenol), Oxalic and acetylsalicylic acids.	K	K/KH	Y	Lectures, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM9.2	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Phosphorus, Iodine, Barium	K	K/KH	Y	Lectures, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM9.3	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Arsenic, lead, mercury, copper, iron, cadmium and thallium	K	K/KH	Y	Lectures, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM9.4	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Ethanol, methanol, ethylene glycol	K	K/KH	Y	Lectures, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM9.5	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Organophosphates, Carbamates, Organochlorines, Pyrethroids, Paraquat, Aluminium and Zinc phosphide	K	K/KH	Y	Lectures, Small group discussion Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	Pharmacology
FM9.6	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Ammonia, carbon monoxide, hydrogen cyanide & derivatives, methyl isocyanate, tear (riot control) gases	K	K/KH	Y	Lectures, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM10.1	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to: i. Antipyretics – Paracetamol, Salicylates ii. Anti-Infectives (Common antibiotics – an overview) iii. Neuropsychotoxicology Barbiturates, benzodiazepines, phenytoin, lithium, haloperidol, neuroleptics, tricyclics iv. Narcotic Analgesics, Anaesthetics, and Muscle Relaxants v. Cardiovascular Toxicology Cardiotoxic plants – oleander, odollam, aconite, digitalis vi. Gastro-Intestinal and Endocrinal Drugs – Insulin	K	K/KH	Y	Lectures, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	Pharmacology
Dermatology, Venereology & Leprosy									
DR5.3	Enumerate and describe the pharmacology, administration and adverse reaction of pharmacotherapies for scabies	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Pediatrics	Pharmacology
DR7.3	Describe the pharmacology and action of antifungal (systemic and topical). agents Enumerate side effects of antifungal therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology ,Pharmacology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
DR8.7	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for common viral illnesses of the skin	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			Pharmacology
DR9.4	Enumerate, describe and identify lepra reactions and supportive measures and therapy of lepra reactions	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	Pharmacology
DR9.5	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for various classes of leprosy based on National Guidelines	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	Pharmacology, Community Medicine
DR9.6	Describe the treatment of Leprosy based on WHO guidelines	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	Pharmacology, Community Medicine
DR9.7	Enumerate and describe the complications of leprosy and its management, including understanding disability and stigma	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	Pharmacology, Psychiatry
DR10.3	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for syphilis	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	Pharmacology, Microbiology
DR10.8	Enumerate the indications and describe the pharmacology, indications and adverse reactions of drugs used in the non-syphilitic sexually transmitted diseases (chancroid, donovanosis and LGV)	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	Pharmacology, Microbiology
DR11.3	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for dermatologic lesions in HIV	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	Pharmacology, Microbiology
DR14.5	Enumerate the indications and describe the pharmacology indications and adverse reactions of drugs used in the urticaria and angioedema	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			Pharmacology
DR15.3	Enumerate the indications and describe the pharmacology indications and adverse reactions of topical and systemic drugs used in treatment of pyoderma	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Surgery	Microbiology, Pharmacology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Anesthesiology									
AS3.6	Choose and write a prescription for appropriate premedications for patients undergoing surgery	S	SH	Y	DOAP session, Bedside clinic session	Skill station		Pharmacology	
AS4.1	Describe and discuss the pharmacology of drugs used in induction and maintenance of general anaesthesia (including intravenous and inhalation induction agents, opiate and non-opiate analgesics, depolarising and non-depolarising muscle relaxants, anticholinesterases	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Pharmacology	
AS4.3	Observe and describe the principles and the practical aspects of induction and maintenance of anesthesia	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pharmacology	
AS5.4	Observe and describe the pharmacology and correct use of commonly used drugs and adjuvant agents in regional anesthesia	S	KH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce		Pharmacology	
AS8.3	Describe the pharmacology and use of drugs in the management of pain	K	KH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce		Pharmacology	
AS8.4	Describe the principles of pain management in palliative care	K	KH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce		Pharmacology	General Medicine
AS8.5	Describe the principles of pain management in the terminally ill	K	KH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce		Pharmacology	General Medicine
AS10.4	Define and describe common medical and medication errors in anaesthesia	K	KH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce		Pharmacology	General Medicine

Psychiatry

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PS4.4	Describe the treatment of alcohol and substance abuse disorders including behavioural and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PS4.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in alcohol and substance abuse	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PS5.3	Describe the treatment of schizophrenia including behavioural and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS5.5	Enumerate and describe the pharmacologic basis and side effects of drugs used in schizophrenia	K	KH	Y	Lecture Small group discussion	Written/ Viva voce		Pharmacology	
PS6.4	Describe the treatment of depression including behavioural and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS6.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in depression	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS7.4	Describe the treatment of bipolar disorders including behavioural and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS7.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in bipolar disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS8.4	Describe the treatment of anxiety disorders including behavioural and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS8.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in anxiety disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS10.4	Describe the treatment of somatoform disorders including behavioural, psychosocial and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PS10.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in somatoform, dissociative and conversion disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PS11.4	Describe the treatment of personality disorders including behavioural, psychosocial and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS11.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in personality disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS12.4	Describe the treatment of psychosomatic disorders including behavioural, psychosocial and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PS12.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in psychosomatic disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS13.4	Describe the treatment of psychosexual and gender identity disorders including behavioural, psychosocial and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS18.1	Enumerate the indications and describe the pharmacology, dose and side effects of commonly use drugs in psychiatric disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
General Medicine									
IM1.24	Describe and discuss the pharmacology of drugs including indications & contraindications in the management of heart failure including diuretics, ACE inhibitors, Beta blockers, aldosterone antagonists and cardiac glycosides	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM1.27	Describe and discuss the role of penicillin prophylaxis in the prevention of rheumatic heart disease	K	KH	Y	Bedside clinic, Small group discussion	Written		Microbiology Pharmacology	
IM1.30	Administer an intramuscular injection with an appropriate explanation to the patient	S	SH	Y	Bedside clinic, Skill assessment	log book documentation of completion		Pharmacology	
IM2.15	Discuss and describe the medications used in patients with an acute coronary syndrome based on the clinical presentation	K	KH	Y	Lecture Small group discussion	Written/ Viva voce		Pharmacology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM2.18	Discuss and describe the indications, formulations, doses, side effects and monitoring for drugs used in the management of dyslipidemia	K	KH	Y	Lecture Small group discussion	Written/ Viva voce		Pharmacology, Biochemistry	
IM2.20	Discuss and describe the assessment and relief of pain in acute coronary syndromes	K	KH	Y	Lecture Small group discussion	Written/ Viva voce		Pharmacology	
IM2.23	Describe and discuss the indications for nitrates, anti platelet agents, gpIIb - IIIa inhibitors, beta blockers, ACE inhibitors etc in the management of coronary syndromes	K	KH	Y	Lecture Small group discussion	Written/ Viva voce		Pharmacology	
IM3.12	Select, describe and prescribe based on the most likely aetiology, an appropriate empirical antimicrobial based on the pharmacology and antimicrobial spectrum	S	SH	Y	Bed side clinic, DOAP session	Skill Assessment/ Written/ Viva voce		Pharmacology, Microbiology	
IM3.13	Select, describe and prescribe based on culture and sensitivity appropriate empirical antimicrobial based on the pharmacology and antimicrobial spectrum	S	SH	Y	Bed side clinic, DOAP session	Skill Assessment/ Written/ Viva voce		Pharmacology, Microbiology	
IM4.22	Describe and discuss the pharmacology, indications, adverse reactions, interactions of antimalarial drugs and basis of resistance	K	KH	Y	Small group, Lecture	Written/ Viva voce		Pharmacology	
IM4.23	Prescribe drugs for malaria based on the species identified, prevalence of drug resistance and National Programs	S	SH	Y	Skill assessment	Skill assessment		Microbiology, Pharmacology	
IM4.26	Counsel the patient on malarial prevention	C	SH	Y	DOAP session	Skill assessment		Microbiology, Pharmacology	
IM5.7	Enumerate and describe the causes and pathophysiology of drug induced liver injury	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Pharmacology	
IM5.16	Describe and discuss the management of hepatitis, cirrhosis, portal hypertension, ascites spontaneous, bacterial peritonitis and hepatic encephalopathy	K	KH	Y	Written, Small group	Skill Assessment/ Written/ Viva voce		Pharmacology	General Surgery
IM6.13	Describe and enumerate the indications and side effects of drugs for bacterial, viral and other types of diarrhea	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM6.17	Discuss and describe the principles of HAART, the classes of antiretrovirals used, adverse reactions and interactions	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Pharmacology	
IM6.18	Discuss and describe the principles and regimens used in post exposure prophylaxis	K	K	Y	Lecture Small group discussion	Written/ Viva voce		Microbiology, Pharmacology	
IM7.21	Select, prescribe and communicate appropriate medications for relief of joint pain	K/C	SH	Y	DOAP session	Skill assessment/ written		Pharmacology	Orthopedics
IM7.22	Select, prescribe and communicate preventive therapy for crystalline arthropathies	K/C	SH	Y	DOAP session	Skill assessment/ written		Pharmacology	
IM7.23	Select, prescribe and communicate treatment option for systemic rheumatologic conditions	K/C	SH	Y	DOAP session	Skill assessment/ written		Pharmacology	
IM7.24	Describe the basis for biologic and disease modifying therapy in rheumatologic diseases	K	KH	Y	Bed side clinic, Small group discussion	Skill assessment/ written		Pharmacology	
IM8.14	Develop an appropriate treatment plan for essential hypertension	K	KH	Y	Small group discussion	Skill assessment/ Written/ Viva voce		Pharmacology	
IM8.15	Recognise, prioritise and manage hypertensive emergencies	S	SH	Y	DOAP session	Skill assessment/ written		Pharmacology	
IM9.14	Prescribe replacement therapy with iron, B12, folate	S	SH	Y	Bed side clinic, DOAP session	Skill assessment/ written		Pharmacology	
IM9.15	Describe the national programs for anemia prevention	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Community Medicine	
IM10.25	Identify and describe the priorities in the management of ARF including diet, volume management, alteration in doses of drugs, monitoring and indications for dialysis	K/C	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM11.16	Discuss and describe the pharmacologic therapies for diabetes their indications, contraindications, adverse reactions and interactions	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		Pharmacology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM11.18	Describe and discuss the pharmacology, indications, adverse reactions and interactions of drugs used in the prevention and treatment of target organ damage and complications of Type II Diabetes including neuropathy, nephropathy, retinopathy, hypertension, dyslipidemia and cardiovascular disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM11.19	Demonstrate and counsel patients on the correct technique to administer insulin	S/C	SH	Y	DOAP session	Skill assessment		Pharmacology	
IM12.13	Describe the pharmacology, indications, adverse reaction, interactions of thyroxine and antithyroid drugs	K	KH	Y	Lecture, Small group discussion	Viva voce/ short note		Pharmacology	General Surgery
IM12.14	Write and communicate to the patient appropriately a prescription for thyroxine based on age, sex, and clinical and biochemical status	S/C	SH	Y	Skill assessment	Skill assessment		Pharmacology	
IM12.15	Describe and discuss the indications of thionamide therapy, radio iodine therapy and General Surgery in the management of thyrotoxicosis	K	KH	Y	Bedside clinic, small group discussion	short note/ Viva voce		Pharmacology	General Surgery
IM13.6	Describe and distinguish the difference between curative and palliative care in patients with cancer	K	K	N	Lecture, Small group discussion	short note/ Viva voce		Pharmacology	
IM13.13	Describe and assess pain and suffering objectively in a patient with cancer	K	KH	Y	Bedside clinic, small group discussion	short note/ Viva voce		Pharmacology	General Surgery
IM13.14	Describe the indications for General Surgery, radiation and chemotherapy for common malignancies	K	KH	Y	Bedside clinic, small group discussion	short note/ Viva voce		Pharmacology	General Surgery
IM13.17	Describe and enumerate the indications, use, side effects of narcotics in pain alleviation in patients with cancer	K	KH	Y	Bedside clinic, small group discussion	short note/ Viva voce		Pharmacology	Anesthesiology
IM14.13	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy for obesity	K	K	Y	Lecture, small group discussion	short note/ Viva voce		Pharmacology	
IM15.14	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy of pressors used in the treatment of Upper GI bleed	K	K	Y	Lecture, Small group discussion	Viva voce/ short note		Pharmacology	General Surgery

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM15.15	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy of acid peptic disease including Helicobacter pylori	K	K	Y	Lecture, small group discussion	short note/ Viva voce		Pharmacology, Microbiology	General Surgery
IM16.13	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy for parasitic causes of diarrhea	K	K	Y	Lecture, small group discussion	short note/ Viva voce		Pharmacology, Microbiology	
IM16.14	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy for bacterial and viral diarrhea	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pharmacology, Microbiology	
IM16.16	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy including immunotherapy	K	K	Y	Lecture, small group discussion	short note/ Viva voce		Pharmacology	
IM17.11	Describe the indications, pharmacology, dose, side effects of abortive therapy in migraine	K	KH	Y	Lecture, Small Group discussion	Written/ Viva voce		Pharmacology	
IM17.12	Describe the indications, pharmacology, dose, side effects of prophylactic therapy in migraine	K	KH	Y	Lecture, Small Group discussion	Written/ Viva voce		Pharmacology	
IM17.13	Describe the pharmacology, dose, adverse reactions and regimens of drugs used in the treatment of bacterial, tubercular and viral meningitis	K	KH	Y	Lecture, Small Group discussion	Written/ Viva voce		Pharmacology	
IM17.14	Counsel patients with migraine on lifestyle changes and need for prophylactic therapy	A/C	SH	N	DOAP session	Skill Assessment		Pharmacology	
IM19.8	Discuss and describe the pharmacology, dose, side effects and interactions used in the drug therapy of Parkinson's syndrome	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM19.9	Enumerate the indications for use of surgery and botulinum toxin in the treatment of movement disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Surgery
IM20.1	Enumerate the poisonous snakes of your area and describe the distinguishing marks of each	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine, Pharmacology	
IM20.7	Enumerate the indications and describe the pharmacology, dose, adverse reactions, hypersensitivity reactions of anti-snake venom	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM20.8	Describe the diagnosis, initial approach, stabilisation and therapy of scorpion envenomation	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM20.9	Describe the diagnosis, initial approach, stabilisation and therapy of bee sting allergy	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM21.1	Describe the initial approach to the stabilisation of the patient who presents with poisoning	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM21.2	Enumerate the common plant poisons seen in your area and describe their toxicology, clinical features, prognosis and specific approach to detoxification	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine, Pharmacology	
IM21.3	Enumerate the common corrosives used in your area and describe their toxicology, clinical features, prognosis and approach to therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine, Pharmacology	
IM21.4	Enumerate the commonly observed drug overdose in your area and describe their toxicology, clinical features, prognosis and approach to therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine, Pharmacology	
IM21.5	Observe and describe the functions and role of a poison center in suspected poisoning	S	KH	Y	DOAP session	document in log book		Forensic Medicine, Pharmacology	
IM21.6	Describe the medico-legal aspects of suspected suicidal or homicidal poisoning and demonstrate the correct procedure to write a medico-legal report on a suspected poisoning	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		Forensic Medicine, Pharmacology	
IM21.7	Counsel family members of a patient with suspected poisoning about the clinical and medico-legal aspects with empathy	A/C	SH	Y	DOAP session	Skill assessment		Forensic Medicine, Pharmacology	
IM22.3	Describe the approach to the management of hypercalcemia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM25.11	Develop an appropriate empiric treatment plan based on the patient's clinical and immune status pending definitive diagnosis	C	SH	Y	DOAP session	Skill assessment		Microbiology, Pharmacology	

Pediatrics

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PE13.5	Propose a management plan for Fe Deficiency Anaemia	S	SH	Y	Bed side clinics, Skill lab	Skill Assessment		Pathology, Pharmacology	
PE13.6	Discuss the National Anaemia Control Program and its recommendations	K	K	Y	Lecture, Small group Discussion	Written/ Viva voce		Pharmacology, Community Medicine	
PE14.1	Discuss the risk factors, clinical features, diagnosis and management of Lead Poisoning	K	KH	N	Lecture, Small group Discussion	Written/ Viva voce		Pharmacology	
PE14.3	Discuss the risk factors, clinical features, diagnosis and management of Organo phosphorous poisoning	K	KH	N	Lecture, Small group Discussion	Written/ Viva voce		Pharmacology	General Medicine
PE14.4	Discuss the risk factors, clinical features, diagnosis and management of paracetamol Poisoning	K	KH	N	Lecture, Small group Discussion	Written/ Viva voce		Pharmacology	
PE24.5	Discuss the role of antibiotics, antispasmodics, anti-secretory drugs, probiotics, anti- emetics in acute diarrheal diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Microbiology	
PE24.8	Discuss the causes, clinical presentation and management of dysentery in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Microbiology	
PE34.3	Discuss the various regimens for management of Tuberculosis as per National Guidelines	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Community Medicine, Pharmacology	Respiratory Medicine
PE34.4	Discuss the preventive strategies adopted and the objectives and outcome of the National Tuberculosis Control Program	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Community Medicine, Pharmacology	Respiratory Medicine
General Surgery									
SU13.2	Discuss the Principles of immunosuppressive therapy. Enumerate indications, describe surgical principles, management of organ transplantation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Pharmacology	

Physical Medicine & Rehabilitation

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PM3.5	Enumerate the indications and describe the therapies for spasticity including medications, serial casts, nerve blocks, botulinum toxin injections	K	KH	Y	Lectures, Small group discussion			Pharmacology	Pediatrics, Orthopedics
PM7.6	Enumerate the indications and describe the pharmacology and side effects of commonly used drugs in neuropathic bladder	K	KH	Y	Lectures, Small group discussion	Written / Viva voce		Pharmacology	General Medicine
Respiratory Medicine									
CT1.4	Describe the epidemiology, the predisposing factors and microbial and therapeutic factors that determine resistance to drugs	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology, Pharmacology	
CT1.14	Describe and discuss the pharmacology of various antituberculous agents, their indications, contraindications, interactions and adverse reactions	K	KH	Y	Lecture, Small group discussion	short note/ Viva voce		Pharmacology, Microbiology	
CT1.15	Prescribe an appropriate antituberculosis regimen based on the location of disease, smear positivity and negativity and co-morbidities based on current national guidelines including directly observed tuberculosis therapy (DOTS)	K	SH	Y	Bedside clinic, Small group discussion, Lecture	Skill assessment		Pharmacology, Community Medicine	
CT2.16	Discuss and describe therapies for OAD including bronchodilators, leukotriene inhibitors, mast cell stabilisers, theophylline, inhaled and systemic steroids, oxygen and immunotherapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
Orthopaedics									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OR3.1	Describe and discuss the aetiopathogenesis, clinical features, Investigations and principles of management of Bone and Joint infections a) Acute Osteomyelitis b) Subacute osteomyelitis c) Acute Suppurative arthritis d) Septic arthritis & HIV infection e) Spirochaetal infection f) Skeletal Tuberculosis	K/S	K/KH/S H	Y	Lecture, Small group Discussion, Video assisted lecture	Written/ Viva voce/ OSCE	–	Pathology, Microbiology	General surgery

PATHOLOGY (CODE: PA)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PATHOLOGY									
Topic: Introduction to Pathology Number of competencies: (03) Number of procedures that require certification: (NIL)									
PA1.1	Describe the role of a pathologist in diagnosis and management of disease	K	K	Y	Departmental orientation	Written/ Viva voce			
PA1.2	Enumerate common definitions and terms used in Pathology	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PA1.3	Describe the history and evolution of Pathology	K	K	N	Lecture, Small group discussion	Written/ Viva voce			
Topic: Cell Injury and Adaptation Number of competencies: (08) Number of procedures that require certification: (NIL)									
PA2.1	Demonstrate knowledge of the causes, mechanisms, types and effects of cell injury and their clinical significance	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA2.2	Describe the etiology of cell injury. Distinguish between reversible-irreversible injury: mechanisms; morphology of cell injury	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA2.3	Intracellular accumulation of fats, proteins, carbohydrates, pigments	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA2.4	Describe and discuss Cell death- types, mechanisms, necrosis, apoptosis (basic as contrasted with necrosis), autolysis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA2.5	Describe and discuss pathologic calcifications, gangrene	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA2.6	Describe and discuss cellular adaptations: atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA2.7	Describe and discuss the mechanisms of cellular aging and apoptosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			
PA2.8	Identify and describe various forms of cell injuries, their manifestations and consequences in gross and microscopic specimens	S	SH	Y	DOAP session	Skill assessment			
Topic: Amyloidosis Number of competencies: (02) Number of procedures that require certification: (NIL)									
PA3.1	Describe the pathogenesis and pathology of amyloidosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA3.2	Identify and describe amyloidosis in a pathology specimen	S	SH	N	DOAP session	Skill assessment			
Topic: Inflammation Number of competencies:(04) Number of procedures that require certification: (NIL)									
PA4.1	Define and describe the general features of acute and chronic inflammation including stimuli, vascular and cellular events	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA4.2	Enumerate and describe the mediators of acute inflammation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA4.3	Define and describe chronic inflammation including causes, types, non-specific and granulomatous; and enumerate examples of each	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA4.4	Identify and describe acute and chronic inflammation in gross and microscopic specimens	S	SH	Y	DOAP session	Skill assessment			
Topic: Healing and repair Number of competencies: (01) Number of procedures that require certification:(NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA5.1	Define and describe the process of repair and regeneration including wound healing and its types	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
Topic: Hemodynamic disorders Number of competencies: (07) Number of procedures that require certification :(NIL)									
PA6.1	Define and describe edema, its types, pathogenesis and clinical correlations	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA6.2	Define and describe hyperemia, congestion, hemorrhage	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA6.3	Define and describe shock, its pathogenesis and its stages	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA6.4	Define and describe normal haemostasis and the etiopathogenesis and consequences of thrombosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA6.5	Define and describe embolism and its causes and common types	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA6.6	Define and describe Ischaemia/infarction its types, etiology, morphologic changes and clinical effects	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA6.7	Identify and describe the gross and microscopic features of infarction in a pathologic specimen	S	SH	Y	DOAP session	Skill Assessment			
Topic: Neoplastic disorders Number of competencies: (05) Number of procedures that require certification: (NIL)									
PA7.1	Define and classify neoplasia. Describe the characteristics of neoplasia including gross, microscopy, biologic, behaviour and spread. Differentiate between benign from malignant neoplasms	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA7.2	Describe the molecular basis of cancer	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA7.3	Enumerate carcinogens and describe the process of carcinogenesis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA7.4	Describe the effects of tumor on the host including paraneoplastic syndrome	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA7.5	Describe immunology and the immune response to cancer	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			Microbiology
Topic: Basic diagnostic cytology Number of competencies:(03) Number of procedures that require certification:(NIL)									
PA8.1	Describe the diagnostic role of cytology and its application in clinical care	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA8.2	Describe the basis of exfoliative cytology including the technique & stains used	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		General Surgery	
PA8.3	Observe a diagnostic cytology and its staining and interpret the specimen	S	KH	Y	DOAP session	Skill assessment			
Topic: Immunopathology and AIDS Number of competencies: (07) Number of procedures that require certification: (NIL)									
PA9.1	Describe the principles and mechanisms involved in immunity	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Microbiology
PA9.2	Describe the mechanism of hypersensitivity reactions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology
PA9.3	Describe the HLA system and the immune principles involved in transplant and mechanism of transplant rejection	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology
PA9.4	Define autoimmunity. Enumerate autoimmune disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA9.5	Define and describe the pathogenesis of systemic Lupus Erythematosus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA9.6	Define and describe the pathogenesis and pathology of HIV and AIDS	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA9.7	Define and describe the pathogenesis of other common autoimmune diseases	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Infections and Infestations Number of competencies: (04) Number of procedures that require certification:(NIL)									
PA10.1	Define and describe the pathogenesis and pathology of malaria	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA10.2	Define and describe the pathogenesis and pathology of cysticercosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA10.3	Define and describe the pathogenesis and pathology of leprosy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA10.4	Define and describe the pathogenesis and pathology of common bacterial, viral, protozoal and helminthic diseases	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
Topic: Genetic and paediatric diseases Number of competencies: (03) Number of procedures that require certification :(NIL)									
PA11.1	Describe the pathogenesis and features of common cytogenetic abnormalities and mutations in childhood	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PA11.2	Describe the pathogenesis and pathology of tumor and tumour-like conditions in infancy and childhood	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PA11.3	Describe the pathogenesis of common storage disorders in infancy and childhood	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
Topic: Environmental and nutritional diseases Number of competencies:(03) Number of procedures that require certification:(NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA12.1	Enumerate and describe the pathogenesis of disorders caused by air pollution, tobacco and alcohol	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Community Medicine
PA12.2	Describe the pathogenesis of disorders caused by protein calorie malnutrition and starvation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Pediatrics	
PA12.3	Describe the pathogenesis of obesity and its consequences	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Introduction to haematology Number of competencies: (05) Number of procedures that require certification:(NIL)									
PA13.1	Describe hematopoiesis and extramedullary hematopoiesis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA13.2	Describe the role of anticoagulants in hematology	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA13.3	Define and classify anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA13.4	Enumerate and describe the investigation of anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA13.5	Perform, Identify and describe the peripheral blood picture in anemia	S	SH	Y	DOAP session	Skill assessment		General Medicine	
Topic: Microcytic anemia Number of competencies: (03) Number of procedures that require certification:(NIL)									
PA14.1	Describe iron metabolism	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PA14.2	Describe the etiology, investigations and differential diagnosis of microcytic hypochromic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA14.3	Identify and describe the peripheral smear in microcytic anemia	S	SH	Y	DOAP session	Skill assessment		General Medicine	
Topic: Macrocytic anemia Number of competencies: (04) Number of procedures that require certification:(NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA15.1	Describe the metabolism of Vitamin B12 and the etiology and pathogenesis of B12 deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA15.2	Describe laboratory investigations of macrocytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA15.3	Identify and describe the peripheral blood picture of macrocytic anemia	S	SH	Y	DOAP session	Skill assessment			
PA15.4	Enumerate the differences and describe the etiology and distinguishing features of megaloblastic and non-megaloblastic macrocytic anemia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Hemolytic anemia Number of competencies: (07) Number of procedures that require certification: (01)									
PA16.1	Define and classify hemolytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA16.2	Describe the pathogenesis and clinical features and hematologic indices of hemolytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA16.3	Describe the pathogenesis, features, hematologic indices and peripheral blood picture of sickle cell anemia and thalassemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA16.4	Describe the etiology pathogenesis, hematologic indices and peripheral blood picture of Acquired hemolytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA16.5	Describe the peripheral blood picture in different hemolytic anaemias	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA16.6	Prepare a peripheral blood smear and identify hemolytic anaemia from it	S	P	Y	DOAP session	Skill assessment	1		
PA16.7	Discribe the correct technique to perform a cross match	S	SH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Aplastic anemia Number of competencies: (02) Number of procedures that require certification:(NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA 17.1	Enumerate the etiology, pathogenesis and findings in aplastic anemia	K	K	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA17.2	Enumerate the indications and describe the findings in bone marrow aspiration and biopsy	K	K	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Leukocyte disorders Number of competencies: (02) Number of procedures that require certification:(NIL)									
PA18.1	Enumerate and describe the causes of leucocytosis leucopenia lymphocytosis and leukemoid reactions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA` 18.2	Describe the etiology, genetics, pathogenesis classification, features, hematologic features of acute and chronic leukemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Lymph node and spleen Number of competencies: (07) Number of procedures that require certification:(NIL)									
PA19.1	Enumerate the causes and describe the differentiating features of lymphadenopathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA19.2	Describe the pathogenesis and pathology of tuberculous lymphadenitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA19.3	Identify and describe the features of tuberculous lymphadenitis in a gross and microscopic specimen	S	SH	Y	DOAP session	Skill assessment			
PA19.4	Describe and discuss the pathogenesis, pathology and the differentiating features of Hodgkin's and non-Hodgkin's lymphoma	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA19.5	Identify and describe the features of Hodgkin's lymphoma in a gross and microscopic specimen	S	SH	Y	DOAP session	Skill assessment		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA19.6	Enumerate and differentiate the causes of splenomegaly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	
PA19.7	Identify and describe the gross specimen of an enlarged spleen	S	SH	Y	DOAP session	Skill assessment			
Topic: Plasma cell disorders Number of competencies: (01) Number of procedures that require certification: (NIL)									
PA20.1	Describe the features of plasma cell myeloma	S	SH	Y	DOAP session	Skill assessment			
Topic: Hemorrhagic disorders Number of competencies: (05) Number of procedures that require certification:(NIL)									
PA21.1	Describe normal hemostasis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA21.2	Classify and describe the etiology, pathogenesis and pathology of vascular and platelet disorders including ITP and haemophilia's	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PA21.3	Differentiate platelet from clotting disorders based on the clinical and hematologic features	S	SH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA21.4	Define and describe disseminated intravascular coagulation, its laboratory findings and diagnosis of disseminated intravascular coagulation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA21.5	Define and describe disseminated intravascular coagulation, its laboratory findings and diagnosis of Vitamin K deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Blood banking and transfusion Number of competencies: (07) Number of procedures that require certification: (NIL)									
PA22.1	Classify and describe blood group systems (ABO and RH)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA22.2	Enumerate the indications, describe the principles, enumerate and demonstrate the steps of compatibility testing	S	SH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA22.4	Enumerate blood components and describe their clinical uses	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	
PA22.5	Enumerate and describe infections transmitted by blood transfusion	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology
PA22.6	Describe transfusion reactions and enumerate the steps in the investigation of a transfusion reaction	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA22.7	Enumerate the indications and describe the principles and procedure of autologous transfusion	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Clinical Pathology Number of competencies: (03) Number of procedures that require certification: (NIL)									
PA23.1	Describe abnormal urinary findings in disease states and identify and describe common urinary abnormalities in a clinical specimen	S	SH	Y	DOAP session	Skill Assessment			
PA23.2	Describe abnormal findings in body fluids in various disease states	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PA23.3	Describe and interpret the abnormalities in a panel containing semen analysis, thyroid function tests, renal function tests or liver function tests	S	SH	Y	DOAP session	Skill Assessment			
Topic: Gastrointestinal tract Number of competencies: (07) Number of procedures that require certification: (NIL)									
PA24.1	Describe the etiology, pathogenesis, pathology and clinical features of oral cancers	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Dentistry	
PA24.2	Describe the etiology, pathogenesis, pathology, microbiology, clinical and microscopic features of peptic ulcer disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA24.3	Describe and identify the microscopic features of peptic ulcer	S	SH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA24.4	Describe and etiology and pathogenesis and pathologic features of carcinoma of the stomach	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA24.5	Describe and etiology and pathogenesis and pathologic features of Tuberculosis of the intestine	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA24.6	Describe and etiology and pathogenesis and pathologic and distinguishing features of Inflammatory bowel disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA24.7	Describe the etiology, pathogenesis, pathology and distinguishing features of carcinoma of the colon	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
Topic: Hepatobiliary system Number of competencies: (06) Number of procedures that require certification: (01)									
PA25.1	Describe bilirubin metabolism, enumerate the etiology and pathogenesis of jaundice, distinguish between direct and indirect hyperbilirubinemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA25.2	Describe the pathophysiology and pathologic changes seen in hepatic failure and their clinical manifestations, complications and consequences	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	
PA25.3	Describe the etiology and pathogenesis of viral and toxic hepatitis: distinguish the causes of hepatitis based on the clinical and laboratory features. Describe the pathology, complications and consequences of hepatitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA25.4	Describe the pathophysiology, pathology and progression of alcoholic liver disease including cirrhosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	
PA25.5	Describe the etiology, pathogenesis and complications of portal hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	
PA25.6	Interpret liver function and viral hepatitis serology panel. Distinguish obstructive from non-obstructive jaundice based on clinical features and liver function tests	S	P	Y	DOAP session	Skill assessment	1	General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Respiratory system		Number of competencies: (07)			Number of procedures that require certification: (NIL)				
PA26.1	Define and describe the etiology, types, pathogenesis, stages, morphology and complications of pneumonia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA26.2	Describe the etiology, gross and microscopic appearance and complications of lung abscess	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA26.3	Define and describe the etiology, types, pathogenesis, stages, morphology and complications and evaluation of Obstructive airway disease (OAD) and bronchiectasis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	Microbiology
PA26.4	Define and describe the etiology, types, pathogenesis, stages, morphology microscopic appearance and complications of tuberculosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA26.5	Define and describe the etiology, types, exposure, environmental influence, pathogenesis, stages, morphology, microscopic appearance and complications of Occupational lung disease	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine, Community Medicine	
PA26.6	Define and describe the etiology, types, exposure, genetics environmental influence, pathogenesis, stages, morphology, microscopic appearance,metastases and complications of tumors of the lung and pleura	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA26.7	Define and describe the etiology, types, exposure, genetics environmental influence, pathogenesis, morphology, microscopic appearance and complications of mesothelioma	K	KH	N	Lecture, Small group discussion	Written / Viva voce		General Medicine, Community Medicine	
Topic: Cardiovascular system		Number of competencies: (10)			Number of procedures that require certification: (NIL)				
PA27.1	Distinguish arteriosclerosis from atherosclerosis. Describe the pathogenesis and pathology of various causes and types of arteriosclerosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA27.2	Describe the etiology, dynamics, pathology types and complications of aneurysms including aortic aneurysms	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA27.3	Describe the etiology, types, stages pathophysiology, pathology and complications of heart failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Physiology	
PA27.4	Describe the etiology, pathophysiology, pathology, gross and microscopic features, criteria and complications of rheumatic fever	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA27.5	Describe the epidemiology, risk factors, etiology, pathophysiology, pathology, presentations, gross and microscopic features, diagnostic tests and complications of ischemic heart disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA27.6	Describe the etiology, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA27.7	Describe the etiology, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of pericarditis and pericardial effusion	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA27.8	Interpret abnormalities in cardiac function testing in acute coronary syndromes	S	SH	Y	DOAP session	Skill Assessment		Physiology, General Medicine	
PA27.9	Classify and describe the etiology, types, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of cardiomyopathies	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Physiology	
PA27.10	Describe the etiology, pathophysiology, pathology features and complications of syphilis on the cardiovascular system	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
Topic: Urinary Tract Number of competencies: (16) Number of procedures that require certification: (NIL)									
PA28.1	Describe the normal histology of the kidney	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PA28.2	Define, classify and distinguish the clinical syndromes and describe the etiology, pathogenesis, pathology, morphology, clinical and laboratory and urinary findings, complications of renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA28.3	Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings, progression and complications of acute renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA28.4	Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings progression and complications of chronic renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA28.5	Define and classify glomerular diseases. Enumerate and describe the etiology, pathogenesis, mechanisms of glomerular injury, pathology, distinguishing features and clinical manifestations of glomerulonephritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA28.6	Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of IgA nephropathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA28.7	Enumerate and describe the findings in glomerular manifestations of systemic disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA28.8	Enumerate and classify diseases affecting the tubular interstitium	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA28.9	Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of acute tubular necrosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA28.10	Describe the etiology, pathogenesis, pathology, laboratory findings, distinguishing features progression and complications of acute and chronic pyelonephritis and reflux nephropathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, General Surgery	
PA28.11	Define classify and describe the etiology, pathogenesis pathology, laboratory, urinary findings, distinguishing features progression and complications of vascular disease of the kidney	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA28.12	Define classify and describe the genetics, inheritance, etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features, progression and complications of cystic disease of the kidney	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics	
PA28.13	Define classify and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features progression and complications of renal stone disease and obstructive uropathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA28.14	Classify and describe the etiology, genetics, pathogenesis, pathology, presenting features, progression and spread of renal tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PA28.15	Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of thrombotic angiopathies	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA28.16	Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of urothelial tumors	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
Topic: Male Genital Tract Number of competencies: (05) Number of procedures that require certification: (NIL)									
PA29.1	Classify testicular tumors and describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of testicular tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA29.2	Describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the penis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA29.3	Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, urologic findings & diagnostic tests of benign prostatic hyperplasia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA29.4	Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the prostate	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA29.5	Describe the etiology, pathogenesis, pathology and progression of prostatitis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
Topic: Female Genital Tract Number of competencies: (09) Number of procedures that require certification: (NIL)									
PA30.1	Describe the epidemiology, pathogenesis, etiology, pathology, screening, diagnosis and progression of carcinoma of the cervix	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.2	Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the endometrium	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.3	Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the leiomyomas and leiomyosarcomas	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.4	Classify and describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of ovarian tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.5	Describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of gestational trophoblastic neoplasms	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.6	Describe the etiology and morphologic features of cervicitis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.7	Describe the etiology, hormonal dependence, features and morphology of endometriosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.8	Describe the etiology and morphologic features of adenomyosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA30.9	Describe the etiology, hormonal dependence and morphology of endometrial hyperplasia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
Topic: Breast Number of competencies: (04) Number of procedures that require certification: (NIL)									
PA31.1	Classify and describe the types, etiology, pathogenesis, pathology and hormonal dependency of benign breast disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, General Surgery	
PA31.2	Classify and describe the epidemiology, pathogenesis, classification, morphology, prognostic factors, hormonal dependency, staging and spread of carcinoma of the breast	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA31.3	Describe and identify the morphologic and microscopic features of carcinoma of the breast	S	SH	N	DOAP session	Skill Assessment		General Surgery	
PA31.4	Enumerate and describe the etiology, hormonal dependency and pathogenesis of gynecomastia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics, General Medicine	
Topic: Endocrine system Number of competencies: (09) Number of procedures that require certification: (NIL)									
PA32.1	Enumerate, classify and describe the etiology, pathogenesis, pathology and iodine dependency of thyroid swellings	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology, General Medicine, General Surgery	
PA32.2	Describe the etiology, cause, iodine dependency, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.3	Describe the etiology, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis/ hypothyroidism	K	KH	Y	Lecture, Small group	Written/ Viva voce		Physiology, General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA32.4	Classify and describe the epidemiology, etiology, pathogenesis, pathology, clinical laboratory features, complications and progression of diabetes mellitus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.5	Describe the etiology, genetics, pathogenesis, manifestations, laboratory and morphologic features of hyperparathyroidism	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.6	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications and metastases of pancreatic cancer	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA32.7	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of adrenal insufficiency	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.8	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of Cushing's syndrome	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.9	Describe the etiology, pathogenesis, manifestations, laboratory and morphologic features of adrenal neoplasms	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology, General Medicine, General Surgery	
Topic: Bone and soft tissue Number of competencies: (05) Number of procedures that require certification: (NIL)									
PA33.1	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of osteomyelitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Orthopaedics	Microbiology
PA33.2	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of bone tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Orthopaedics	
PA33.3	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of soft tissue tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Orthopaedics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA33.4	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of Paget's disease of the bone	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Orthopaedics	
PA33.5	Classify and describe the etiology, immunology, pathogenesis, manifestations, radiologic and laboratory features, diagnostic criteria and complications of rheumatoid arthritis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Skin Number of competencies: (04) Number of procedures that require certification:(NIL)									
PA34.1	Describe the risk factors pathogenesis, pathology and natural history of squamous cell carcinoma of the skin	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy	
PA34.2	Describe the risk factors pathogenesis, pathology and natural history of basal cell carcinoma of the skin	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy	
PA34.3	Describe the distinguishing features between a nevus and melanoma. Describe the etiology, pathogenesis, risk factors morphology clinical features and metastases of melanoma	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy	
PA34.4	Identify, distinguish and describe common tumors of the skin	S	SH	N	DOAP session	Skill Assessment		Dermatology, Venereology & Leprosy	
Topic: Central Nervous System Number of competencies:(03) Number of procedures that require certification: (01)									
PA35.1	Describe the etiology, types and pathogenesis, differentiating factors, CSF findings in meningitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA35.2	Classify and describe the etiology, genetics, pathogenesis, pathology, presentation sequelae and complications of CNS tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PA35.3	Identify the etiology of meningitis based on given CSF parameters	S	P	Y	DOAP session	Skill Assessment	1	General Medicine	Microbiology
Topic: Eye Number of competencies: (01) Number of procedures that require certification:(NIL)									
PA36.1	Describe the etiology, genetics, pathogenesis, pathology, presentation, sequelae and complications of retinoblastoma	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Ophthalmology	
Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, S - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation									
Integration									
Human Anatomy									
AN5.8	Define thrombosis, infarction & aneurysm	K	KH	N	Lecture	Written		Pathology	Physiology
AN66.2	Describe the ultrastructure of connective tissue	K	KH	N	Lecture, Practical	Written		Pathology	
AN70.1	Identify exocrine gland under the microscope & distinguish between serous, mucous and mixed acini	K/S	SH	Y	Lecture, Practical	Written/ skill assessment		Pathology	
AN70.2	Identify the lymphoid tissue under the microscope & describe microanatomy of lymph node, spleen, thymus, tonsil and correlate the structure with function	K/S	SH	Y	Lecture, Practical	Written/ skill assessment		Pathology	
AN71.1	Identify bone under the microscope, Classify various types and describe the structure-function correlation of the same	K/S	SH	Y	Lecture, Practical	Written/ skill assessment		Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
AN71.2	Identify cartilage under the microscope & describe various types and structure- function correlation of the same describe various types and structure-function correlation of the same	K/S	SH	Y	Lecture, Practical	Written/ skill assessment		Pathology	
Physiology									
PY1.4	Describe apoptosis – programmed cell death	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PY2.5	Describe different types of anemia & Jaundice	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	Biochemistry
PY2.8	Describe the physiological basis of hemostasis and anticoagulants. Describe bleeding & clotting disorders (Hemophilia, purpura)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PY2.9	Describe different blood groups and discuss the clinical importance of blood grouping, blood banking and transfusion	K	KH	Y	Lecture, Small group discussion, ECE- Visit to blood bank	Written/ Viva voce		Pathology	
PY2.11	Estimate Hb, RBC, TLC, RBC indices, DLC, Blood groups, BT/CT	S	SH	Y	DOAP sessions	Practical/OSPE/ viva voce		Pathology	
PY2.12	Describe test for ESR, Osmotic fragility, Hematocrit. Note the findings and interpret the test results etc	K	KH	Y	Demonstration	Written/ Viva voce		Pathology	
PY2.13	Describe steps for reticulocyte and platelet count	K	KH	Y	Demonstration sessions	Written/ Viva voce		Pathology	
PY3.6	Describe the pathophysiology of Myasthenia gravis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
Biochemistry									
BI2.4	Describe and discuss enzyme inhibitors as poisons and drugs and as therapeutic enzymes	K	KH	Y	Lecture, small group discussions	Written/ Viva voce		Pathology, General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
BI2.5	Describe and discuss the clinical utility of various serum enzymes as markers of pathological conditions	K	KH	Y	Lecture, small group discussions	Written/ Viva voce		Pathology, General Medicine	
BI2.6	Discuss use of enzymes in laboratory investigations (Enzyme-based assays)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	
BI2.7	Interpret laboratory results of enzyme activities & describe the clinical utility of various enzymes as markers of pathological conditions	K	KH	Y	Lecture, Small group discussion /DOAP sessions	Written/ Viva voce		Pathology, General Medicine	
BI3.8	Discuss and interpret laboratory results of analytes associated with metabolism of carbohydrates.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	
BI5.2	Describe and discuss functions of proteins and structure-function relationships in relevant areas eg, hemoglobin and selected hemoglobinopathies	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Pathology, General Medicine	Physiology
BI6.11	Describe the functions of haem in the body and describe the processes involved in its metabolism and describe porphyrin metabolism	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Pathology, General Medicine	Physiology
BI6.12	Describe the major types of haemoglobin and its derivatives found in the body and their physiological/ pathological relevance	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Pathology, General Medicine	Physiology
BI6.13	Describe the functions of the kidney, liver, thyroid and adrenal glands.	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
BI6.14	Describe the tests that are commonly done in clinical practice to assess the functions of kidney, liver, thyroid and adrenal glands	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
BI6.15	Describe the abnormalities of kidney, liver, thyroid and adrenal glands	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
BI7.7	Describe the role of oxidative stress in the pathogenesis of conditions such as cancer, complications of diabetes mellitus and atherosclerosis	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		General Medicine, Pathology	
BI8.1	Discuss the importance of various dietary components and explain importance of dietary fibre	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		General Medicine, Pediatrics, Pathology	
BI8.2	Describe the types and causes of protein energy malnutrition and its effects	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		General Medicine, Pediatrics, Pathology	
BI8.4	Describe the causes (including dietary habits), effects and health risks associated with being overweight/obesity	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		General Medicine, Pathology	
BI8.5	Summarize the nutritional importance of commonly used items of food including fruits and vegetables (macro-molecules & its importance)	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Community Medicine, General Medicine, Pediatrics	
BI10.1	Describe the cancer initiation, promotion oncogenes & oncogene activation	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Obstetrics & Gynaecology, General Surgery, Pathology	
BI10.2	Describe various biochemical tumor markers and the biochemical basis of cancer therapy	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Obstetrics & Gynaecology, General Surgery, Pathology	
BI10.3	Describe the cellular and humoral components of the immune system & describe the types and structure of antibody	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Obstetrics & Gynaecology, General Surgery, Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
BI10.4	Describe & discuss innate and adaptive immune responses, self/non-self recognition and the central role of T-helper cells in immune responses	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		General Medicine, Pathology	Physiology
BI10.5	Describe antigens and concepts involved in vaccine development	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Pathology, Pediatrics, Microbiology	
BI11.17	Explain the basis and rationale of biochemical tests done in the following conditions: diabetes mellitus, dyslipidemia, myocardial infarction, renal failure, gout, proteinuria, nephrotic syndrome, edema, jaundice, liver diseases, pancreatitis, disorders of acid-base balance, thyroid disorders	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		General Medicine, Pathology	
Microbiology									
MI1.7	Describe the immunological mechanisms in health	K	KH	Y	Lecture	Written/ Viva voce			Pathology
MI1.8	Describe the mechanisms of immunity and response of the host immune system to infections	K	KH	Y	Lecture	Written/ Viva voce		Pediatrics	Pathology
MI2.1	Describe the etiologic agents in rheumatic fever and their diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI2.2	Describe the classification etio-pathogenesis, clinical features and discuss the diagnostic modalities of Infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI2.3	Identify the microbial agents causing Rheumatic heart disease & infective Endocarditis	S	SH	Y	DOAP session	Skill assessment		General Medicine	Pathology
MI2.4	List the common microbial agents causing anemia. Describe the morphology, mode of infection and discuss the pathogenesis, clinical course, diagnosis and prevention and treatment of the common microbial agents causing Anemia	K	KH	Y	Lecture, Small group discussion	Written/ viva voce		General Medicine	Pathology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
MI2.5	Describe the etio-pathogenesis and discuss the clinical evolution and the laboratory diagnosis of kala azar, malaria, filariasis and other common parasites prevalent in India	K	KH	Y	Lecture, Small group discussion	Written/ viva voce		General Medicine	Pathology
MI2.7	Describe the epidemiology, the etio-pathogenesis, evolution, complications, opportunistic infections, diagnosis, prevention and the principles of management of HIV	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI3.1	Enumerate the microbial agents causing diarrhea and dysentery. Describe the epidemiology, morphology, pathogenesis, clinical features, and diagnostic modalities of these agents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics	Pathology
MI3.3	Describe the enteric fever pathogens and discuss the evolution of the clinical course, the laboratory diagnosis of the diseases caused by them	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Pathology
MI3.4	Identify the different modalities for diagnosis of enteric fever. Choose the appropriate test related to the duration of illness	S	KH	Y	DOAP session	Skill assessment		General Medicine	Pathology
MI3.6	Describe the etio-pathogenesis of Acid Peptic disease (APD) and the clinical course. Discuss the diagnosis and management of the causative agent of APD.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Pathology
MI3.7	Describe the epidemiology, the etio-pathogenesis and discuss the viral markers in the evolution of Viral hepatitis. Discuss the modalities in the diagnosis, and prevention of viral hepatitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI3.8	Choose the appropriate laboratory test in the diagnosis of viral hepatitis	K	KH	Y	small group discussion, Case discussion	Written/ Viva voce/ OSPE		General Medicine	Pathology
MI5.1	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of meningitis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Pathology
MI5.2	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of encephalitis.	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Pathology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
MI8.2	Describe the etio-pathogenesis of opportunistic infections (OI) and discuss the factors contributing to the occurrence of OI, and the laboratory diagnosis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Pathology
MI8.3	Describe the role of oncogenic viruses in the evolution of virus associated malignancy	K	KH	Y	Lecture	Written		General Medicine	Pathology
Community Medicine									
CM8.1	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for communicable diseases	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		General Medicine, Pediatrics	Microbiology, Pathology
Forensic Medicine & Toxicology									
FM2.1	Define, describe and discuss death and its types including somatic/clinical/cellular, molecular and brain-death, Cortical death and Brainstem death	K	KH	Y	Lecture, Small group discussion	Written/viva voce			Pathology
FM2.2	Describe and discuss natural and unnatural deaths	K	KH	Y	Lecture, Small group discussion	Written/viva voce			Pathology
FM2.3	Describe and discuss issues related to sudden natural deaths	K	KH	Y	Lecture, Small group discussion	Written/viva voce			Pathology
FM2.5	Discuss moment of death, modes of death-coma, asphyxia and syncope	K	KH	Y	Lecture, Small group discussion	Written/viva voce			Pathology
FM2.11	Describe and discuss autopsy procedures including post-mortem examination, different types of autopsies, aims and objectives of post-mortem examination	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/viva voce/ OSPE			Pathology
FM2.12	Describe the legal requirements to conduct post-mortem examination and procedures to conduct medico-legal post-mortem examination	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/viva voce/ OSPE			Pathology

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FM2.13	Describe and discuss obscure autopsy	K	KH	Y	Lecture, Small group discussion	Written/viva voce			Pathology
FM3.28	Describe evidences of abortion - living and dead, duties of doctor in cases of abortion, investigations of death due to criminal abortion	K	K/KH	Y	Lecture, Small group discussion	Written/viva voce		Obstetrics & Gynaecology, Pathology	
FM6.1	Describe different types of specimens and tissues to be collected both in the living and dead: body fluids (blood, urine, semen, faeces, saliva), skin, nails, tooth pulp, vaginal smear, viscera, skull, specimen for histo-pathological examination, blood grouping, HLA Typing and DNA Fingerprinting. Describe Locard's Exchange Principle	K	K/KH	Y	Lecture, Small group discussion	Written/viva voce			Pathology
FM14.7	Demonstrate & identify that a particular stain is blood and identify the species of its origin	S	KH	Y	Small group discussion, Lecture	Log book/ skill station/ Viva voce		Forensic Medicne, Physiology	
FM14.8	Demonstrate the correct technique to perform and identify ABO & RH blood group of a person	S	SH	Y	Small group discussion, DOAP session	Log book/ skill station/ Viva voce		Forensic Medicne, Physiology	
Dermatology, Venereology & Leprosy									
DR12.7	Identify and distinguish fixed drug eruptions and Steven Johnson syndrome from other skin lesions	S	SH	Y	Bedside clinic	Skill assessment	1	General Medicine	Pathology, Microbiology
DR14.1	Describe the etiology, pathogenesis and clinical precipitating features and classification of Urticaria and angioedema	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology, Pathology
DR16.1	Identify and distinguish skin lesions of SLE	S	SH	Y	Bedside clinic discussion	Skill assessment	2	General Medicine	Pathology
DR16.2	Identify and distinguish Raynaud's phenomenon	S	SH	Y	Bedside clinic discussion	Skill assessment	2	General Medicine	Pathology
Anesthesiology									

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AS9.4	Enumerate blood products and describe the use of blood products in the preoperative period	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pathology	General Surgery
ENT									
EN1.2	Describe the pathophysiology of common diseases in ENT	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pathology	
Ophthalmology									
OP7.2	Describe and discuss the aetio-pathogenesis, stages of maturation and complications of cataract	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
OP8.1	Discuss the aetiology, pathology, clinical features and management of vascular occlusions of the retina	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Pathology	
Dentistry									
DE4.1	Discuss the prevalence of oral cancer and enumerate the common types of cancer that can affect tissues of the oral cavity	K	K	N	Lecture, Small group discussion	Viva voce		Pathology	ENT
DE4.2	Discuss the role of etiological factors in the formation of precancerous /cancerous lesions	K	KH	Y	Lecture, Small group discussion	Viva voce		Pathology	ENT
DE4.3	Identify potential pre-cancerous / cancerous lesions	S	SH	N	Observation, Bed side clinics	Skill assessment		Pathology	ENT
DE4.4	Counsel patients to risks of oral cancer with respect to tobacco, smoking, alcohol and other causative factors.	A/C	SH	Y	DOAP session	Document in Log book	2	Pathology	ENT
General Medicine									

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IM1.1	Describe and discuss the epidemiology, pathogenesis clinical evolution and course of common causes of heart disease including: rheumatic/ valvular, ischemic, hypertrophic inflammatory	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.2	Describe and discuss the genetic basis of some forms of heart failure	K	KH	N	Lecture, Small group discussion	Written		Pathology, Physiology	
IM1.3	Describe and discuss the aetiology, microbiology, pathogenies and clinical evolution of rheumatic fever, criteria, degree of rheumatic activity and rheumatic valvular heart disease and its complications including infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology, Microbiology	
IM1.4	Stage heart failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.5	Describe, discuss and differentiate the processes involved in R vs L heart failure, systolic vs diastolic failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.6	Describe and discuss the compensatory mechanisms involved in heart failure including cardiac remodelling and neurohormonal adaptations	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.7	Enumerate, describe and discuss the factors that exacerbate heart failure including ischemia, arrhythmias, anemia, thyrotoxicosis, dietary factors drugs etc.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.8	Describe and discuss the pathogenesis and development of common arrhythmias involved in heart failure particularly atrial fibrillation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.9	Describe and discuss the clinical presentation and features, diagnosis, recognition and management of acute rheumatic fever	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	

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IM2.1	Discuss and describe the epidemiology, antecedents and risk factors for atherosclerosis and ischemic heart disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology, Community Medicine	
IM2.2	Discuss the aetiology of risk factors both modifiable and non-modifiable of atherosclerosis and IHD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM2.4	Discuss and describe the pathogenesis natural history, evolution and complications of atherosclerosis and IHD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM2.5	Define the various acute coronary syndromes and describe their evolution, natural history and outcomes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM3.1	Define, discuss, describe and distinguish community acquired pneumonia, nosocomial pneumonia and aspiration pneumonia	K	K	Y	Lecture , Small group discussion	short note/ Viva voce		Human Anatomy, Pathology, Microbiology	
IM3.3	Discuss and describe the pathogenesis, presentation, natural history and complications of pneumonia	K	K	Y	Lecture, Small group discussion	short note/ Viva voce		Pathology, Microbiology	
IM4.5	Describe and discuss the pathophysiology and manifestations of malignant causes of fever including hematologic and lymph node malignancies	K	KH	Y	Lecture, Small group discussion	written		Pathology, Microbiology	
IM4.12	Order and interpret diagnostic tests based on the differential diagnosis including: CBC with differential, peripheral smear, urinary analysis with sediment, Chest X ray, blood and urine cultures, sputum gram stain and cultures, sputum AFB and cultures, CSF analysis, pleural and body fluid analysis, stool routine and culture and QBC	K	SH	Y	Bed side clinic, Skill assessment	Skill assessment		Pathology, Microbiology	
IM4.16	Enumerate the indications and describe the findings in tests of inflammation and specific rheumatologic tests, serologic testing for pathogens including HIV, bone marrow aspiration and biopsy	K	KH	N	Lecture, Small group discussion	written		Pathology	
IM4.17	Observe and assist in the performance of a bone marrow aspiration and biopsy in a simulated environment	S	SH	N	skills lab	log book documentation/ DOAP session		Pathology	

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IM5.1	Describe and discuss the physiologic and biochemical basis of hyperbilirubinemia	K	K	Y	Lecture, Small group discussion	Written/Viva voce		Pathology, Physiology	
IM5.2	Describe and discuss the aetiology and pathophysiology of liver injury	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM5.3	Describe and discuss the pathologic changes in various forms of liver disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM5.4	Describe and discuss the epidemiology, microbiology, immunology and clinical evolution of infective (viral) hepatitis	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	
IM5.5	Describe and discuss the pathophysiology and clinical evolution of alcoholic liver disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM5.6	Describe and discuss the pathophysiology, clinical evolution and complications of cirrhosis and portal hypertension including ascites, spontaneous bacterial peritonitis, hepatorenal syndrome and hepatic encephalopathy	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM5.7	Enumerate and describe the causes and pathophysiology of drug induced liver injury	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Pharmacology	
IM5.12	Choose and interpret appropriate diagnostic tests including: CBC, bilirubin, function tests, Hepatitis serology and ascitic fluid examination in patient with liver diseases	S	KH	Y	Bedside clinic, DOAP session	Skill assessment		Pathology	
IM5.14	Outline a diagnostic approach to liver disease based on hyperbilirubinemia, liver function changes and hepatitis serology	S	SH	Y	Bedside clinic, Small group discussion	viva voce/ written		Pathology, Microbiology	
IM6.5	Describe and discuss the pathogenesis, evolution and clinical features of common HIV related malignancies	K	KH	Y	Lecture, Small group discussion	short notes/ Viva voce		Pathology, Microbiology	
IM6.6	Describe and discuss the pathogenesis, evolution and clinical features of common HIV related skin and oral lesions	K	KH	Y	Lecture, Small group discussion	short notes/ Viva voce		Pathology, Microbiology	

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IM6.10	Choose and interpret appropriate diagnostic tests to diagnose and classify the severity of HIV-AIDS including specific tests of HIV, CDC	K	KH	Y	Bed side clinic, DOAP session, Small group discussion	written/ Skill assessment		Pathology, Microbiology	
IM6.19	Enumerate the indications of and discuss about prophylactic drugs used to prevent HIV related opportunistic infections	K/C	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	
IM7.1	Describe the pathophysiology of autoimmune disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM7.2	Describe the genetic basis of autoimmune disease	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM7.16	Enumerate the indications for and interpret the results of: CBC, anti CCP (Anti-cyclic citrullinated peptide), RA, ANA, DNA and other tests of autoimmunity	K	SH	Y	Bed side clinic, small group	Skill assessment/ written		Pathology	
IM8.1	Describe and discuss the epidemiology, aetiology and the prevalence of primary and secondary hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM8.2	Describe and discuss the pathophysiology of hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM8.3	Describe and discuss the genetic basis of hypertension	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM8.4	Define and classify hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM8.5	Describe and discuss the differences between primary and secondary hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM8.7	Describe and discuss the clinical manifestations of the various aetiologies of secondary causes of hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM8.8	Describe, discuss and identify target organ damage due to hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	

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IM9.1	Define, describe and classify anemia based on red blood cell size and reticulocyte count	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM9.2	Describe and discuss the morphological characteristics, aetiology and prevalence of each of the causes of anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM9.6	Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology	S	SH	Y	Bed side clinic, DOAP session, Small group discussion	Skill assessment/ written		Pathology	
IM9.7	Describe the appropriate diagnostic work up based on the presumed aetiology	S	SH	Y	Bed side clinic, DOAP session	Skill assessment/ written		Pathology	
IM9.8	Describe and discuss the meaning and utility of various components of the hemogram	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		Pathology	
IM9.9	Describe and discuss the various tests for iron deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		Pathology	
IM9.10	Order and interpret tests for anemia including hemogram, red cell indices, reticulocyte count, iron studies, B12 and folate.	S	SH	Y	Bed side clinic, DOAP session	Skill assessment/ written		Pathology	
IM9.11	Describe, perform and interpret a peripheral smear and stool occult blood	S	SH	P	Bed side clinic, DOAP session	Skill assessment/ written		Pathology	
IM9.12	Describe the indications and interpret the results of a bone marrow aspirations and biopsy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		Pathology	
IM9.13	Describe, develop a diagnostic plan to determine the aetiology of anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		Pathology	
IM9.18	Describe the indications for blood transfusion and the appropriate use of blood components	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		Pathology	
IM10.1	Define, describe and differentiate between acute and chronic renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	

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IM10.2	Classify, describe and differentiate the pathophysiologic causes of acute renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.3	Describe the pathophysiology and causes of pre renal ARF, renal and post renal ARF	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.4	Describe the evolution, natural history and treatment of ARF	K	KH	Y	Lecture, small group	Written/ Viva voce		Pathology	
IM10.5	Describe and discuss the aetiology of CRF	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.6	Stage Chronic Kidney Disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.7	Describe and discuss the pathophysiology and clinical findings of uraemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.8	Classify, describe and discuss the significance of proteinuria in CKD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.9	Describe and discuss the pathophysiology of anemia and hyperparathyroidism in CKD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.10	Describe and discuss the association between CKD glycemia and hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.11	Describe and discuss the relationship between CAD risk factors and CKD and in dialysis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.16	Enumerate the indications for and interpret the results of: renal function tests, calcium, phosphorus, PTH, urine electrolytes, osmolality, Anion gap	K	KH	Y	DOAP session, Small group discussion	Skill assessment/ Written/ Viva voce		Pathology	
IM10.17	Describe and calculate indices of renal function based on available laboratories including FENa (Fractional Excretion of Sodium) and CrCl (Creatinine Clearance)	S	SH	Y	DOAP session, Small group discussion	Skill assessment/ Written/ Viva voce		Pathology	
IM11.2	Describe and discuss the epidemiology and pathogenesis and risk factors and clinical evolution of type 1 diabetes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	

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IM11.3	Describe and discuss the epidemiology and pathogenesis and risk factors, economic impact and clinical evolution of type 2 diabetes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM11.5	Describe and discuss the pathogenesis and temporal evolution of microvascular and macrovascular complications of diabetes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM11.11	Order and interpret laboratory tests to diagnose diabetes and its complications including: glucoses, glucose tolerance test, glycosylated hemoglobin, urinary micro albumin, ECG, electrolytes, ABG, ketones, renal function tests and lipid profile	S	SH	Y	Bed side clinic, DOAP session, Small group discussion	Skill assessment		Pathology	
IM11.12	Perform and interpret a capillary blood glucose test	S	P	Y	Bed side clinic, DOAP session, Small group discussion	Skill assessment	2	Pathology, Biochemistry	
IM11.13	Perform and interpret a urinary ketone estimation with a dipstick	S	P	Y	Bed side clinic, DOAP session	Skill assessment	2	Pathology, Biochemistry	
IM11.22	Enumerate the causes of hypoglycaemia and describe the counter hormone response and the initial approach and treatment	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM12.1	Describe the epidemiology and pathogenesis of hypothyroidism and hyperthyroidism including the influence of iodine deficiency and autoimmunity in the pathogenesis of thyroid disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM12.3	Describe and discuss the physiology of the hypothalamo-pituitary - thyroid axis, principles of thyroid function testing and alterations in physiologic function	K	K	Y	Lecture, Small group discussion	short notes		Pathology, Physiology	
IM13.1	Describe the clinical epidemiology and inherited & modifiable risk factors for common malignancies in India	K	K	Y	Lecture, Small group discussion	short note/ Viva voce		Pathology, Biochemistry	
IM13.2	Describe the genetic basis of selected cancers	K	K	N	Lecture, Small group discussion	short note/ Viva voce		Pathology	

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IM13.3	Describe the relationship between infection and cancers	K	K	Y	Lecture, Small group discussion	short note/ Viva voce		Pathology, Microbiology	
IM13.4	Describe the natural history, presentation, course, complications and cause of death for common cancers	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology	
IM13.15	Describe the need, tests involved, their utility in the prevention of common malignancies	K	KH	Y	Bedside clinic, small group discussion	short note/ Viva voce		Pathology	
IM14.2	Describe and discuss the aetiology of obesity including modifiable and non-modifiable risk factors and secondary causes	K	K	Y	Lecture, Small group discussion	short note/ Viva voce		Pathology	
IM14.3	Describe and discuss the monogenic forms of obesity	K	K	N	Lecture, Small group discussion	short note/ Viva voce		Pathology	
IM14.4	Describe and discuss the impact of environmental factors including eating habits, food, work, environment and physical activity on the incidence of obesity	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology, Community Medicine	
IM14.5	Describe and discuss the natural history of obesity and its complications	K	K	Y	Lecture, Small group discussion	short note/ Viva voce		Pathology	
IM15.1	Enumerate, describe and discuss the aetiology of upper and lower GI bleeding	K	K	Y	Lecture, Small group discussion	short note/ Viva voce		Pathology	General Surgery
IM15.2	Enumerate, describe and discuss the evaluation and steps involved in stabilizing a patient who presents with acute volume loss and GI bleed	S	SH	Y	DOAP session, Small group discussion, Lecture	Written/ Viva voce/ Skill assessment		Pathology	General Surgery
IM15.3	Describe and discuss the physiologic effects of acute blood and volume loss	K	K	Y	Lecture, Small group discussion	Short note/ viva voce		Pathology, Physiology	General Surgery
IM15.9	Choose and interpret diagnostic tests based on the clinical diagnosis including complete blood count, PT and PTT, stool examination, occult blood, liver function tests, H.pylori test	S	SH	Y	Bedside clinic, DOAP session, Small group discussion	Skill assessment/ Short note/ Viva voce		Pathology	General Surgery

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IM15.11	Develop document and present a treatment plan that includes fluid resuscitation, blood and blood component transfusion and specific therapy for arresting blood loss	S	KH	Y	Lecture, Small group discussion	Short note/ viva voce		Pathology	General Surgery
IM15.12	Enumerate the indications for whole blood, component and platelet transfusion and describe the clinical features and management of a mismatched transfusion	K	K	Y	Lecture, Small group discussion	Short note/ viva voce		Pathology	General Surgery
IM15.13	Observe cross matching and blood / blood component transfusion	S	SH	Y	Bedside clinic	Short note/ Viva voce/ Skill assessment		Pathology	General Surgery
IM16.4	Elicit and document and present an appropriate history that includes the natural history, dietary history, travel, sexual history and other concomitant illnesses	S	SH	Y	Bedside clinic skills lab	Skill assessment		Microbiology, Pathology	
IM16.8	Choose and interpret diagnostic tests based on the clinical diagnosis including complete blood count, and stool examination	S	SH	Y	Bedside clinic, Skills lab, Small group discussion	Skill assessment/ Short note/ Viva voce		Microbiology, Pathology	
IM16.12	Enumerate and discuss the indications for further investigations including antibodies, colonoscopy, diagnostic imaging and biopsy in the diagnosis of chronic diarrhea	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	General Surgery
IM16.15	Distinguish, based on the clinical presentation, Crohn's disease from ulcerative colitis	S	SH	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology	General Surgery
IM17.7	Enumerate the indications and describe the findings in the CSF in patients with meningitis	K	K	Y	Small group, Bedside clinic	Skill Assessment		Microbiology, Pathology	
IM17.8	Demonstrate in a mannequin or equivalent the correct technique for performing a lumbar puncture	S	SH	Y	DOAP session	Skill assessment		Microbiology, Pathology	
IM17.9	Interpret the CSF findings when presented with various parameters of CSF fluid analysis	S	SH	Y	Small group discussion, Bedside clinic	Skill assessment		Microbiology, Pathology	
IM18.2	Classify cerebrovascular accidents and describe the aetiology, predisposing genetic and risk factors pathogenesis of hemorrhagic and non hemorrhagic stroke	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	

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IM18.3	Elicit and document and present an appropriate history including onset, progression precipitating and aggravating relieving factors, associated symptoms that help identify the cause of the cerebrovascular accident	S	SH	Y	Bedside clinic	Skill assessment		Pathology	
IM22.1	Enumerate the causes of hypercalcemia and distinguish the features of PTH vs non PTH mediated hypercalcemia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM22.2	Describe the aetiology, clinical manifestations, diagnosis and clinical approach to primary hyperparathyroidism	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	General Surgery
IM22.4	Enumerate the components and describe the genetic basis of the multiple endocrine neoplasia syndrome	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM25.7	Order and interpret diagnostic tests based on the differential diagnosis including: CBC with differential, blood biochemistry, peripheral smear, urinary analysis with sediment, Chest X ray, blood and urine cultures, sputum gram stain and cultures, sputum AFB and cultures, CSF analysis, pleural and body fluid analysis, stool routine and culture and QBC	K	SH	Y	Bed side clinic, Skill assessment	Skill assessment		Pathology, Microbiology	
Obstetrics & Gynaecology									
OG10.2	Enumerate the indications and describe the appropriate use of blood and blood products, their complications and management	K	KH	Y	Lecture, Small group discussion			Pathology	
Pediatrics									
PE11.1	Describe the common etiology, clinical features and management of obesity in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry, Pathology	
PE11.2	Discuss the risk approach for obesity and discuss the prevention strategies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PE12.7	Describe the causes, clinical features, diagnosis and management of deficiency /excess of Vitamin D (Rickets and Hypervitaminosis D)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Physiology, Pathology	
PE12.8	Identify the clinical features of dietary deficiency of Vitamin D	S	p	Y	Bedside clinics, Skills lab	Document in log book	3	Biochemistry, Physiology Pathology	
PE12.9	Assess patients with Vitamin D deficiency, diagnose, classify and plan management	S	SH	Y	Bed side clinics	Document in log book		Biochemistry, Physiology, Pathology	
PE12.13	Discuss the RDA , dietary sources of Vitamin K and their role in Health and disease	K	K	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Physiology, Pathology	
PE12.14	Describe the causes, clinical features, diagnosis, management and prevention of Deficiency of Vitamin K	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Physiology, Pathology	
PE13.1	Discuss the RDA, dietary sources of Iron and their role in health and disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Biochemistry	
PE13.2	Describe the causes, diagnosis and management of Fe deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology Biochemistry	
PE13.3	Identify the clinical features of dietary deficiency of Iron and make a diagnosis	S	SH	Y	Bed side clinics, Skill Lab	Document in log book		Pathology, Biochemistry	
PE13.4	Interpret hemogram and Iron Panel	S	P	Y	Bed side clinic, Small group discussion	Skill Assessment	5	Pathology, Biochemistry	
PE13.5	Propose a management plan for Fe Deficiency Anaemia	S	SH	Y	Bed side clinics, Skill lab	Skill Assessment		Pathology, Pharmacology	
PE21.2	Enumerate the etio-pathogenesis, clinical features, complications and management of Acute post streptococcal Glomerular Nephritis in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE21.3	Discuss the approach and referral criteria to a child with Proteinuria	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PE21.5	Enumerate the etio-pathogenesis clinical features, complications and management of Acute Renal Failure in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE21.6	Enumerate the etio-pathogenesis, clinical features, complications and management of Chronic renal Failure in Children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE21.7	Enumerate the etio-pathogenesis clinical features, complications and management of Wilms Tumor	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE21.11	Perform and interpret the common analytes in a Urine examination	S	SH	Y	Bed side clinic Labs, Skill lab	Skill assessment		Biochemistry, Pathology	
PE23.1	Discuss the Hemodynamic changes, clinical presentation, complications and management of Acyanotic Heart Diseases –VSD, ASD and PDA	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
PE23.2	Discuss the Hemodynamic changes, clinical presentation, complications and management of Cyanotic Heart Diseases – Fallot's Physiology	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
PE23.3	Discuss the etio-pathogenesis, clinical presentation and management of cardiac failure in infant and children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
PE23.4	Discuss the etio-pathogenesis, clinical presentation and management of Acute Rheumatic Fever in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
PE23.5	Discuss the clinical features, complications, diagnosis, management and prevention of Acute Rheumatic Fever	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
PE23.6	Discuss the etio-pathogenesis and clinical features and management of Infective endocarditis in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology, Microbiology	
PE24.1	Discuss the etio-pathogenesis, classification, clinical presentation and management of diarrheal diseases in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PE24.2	Discuss the classification and clinical presentation of various types of diarrheal dehydration	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	
PE25.1	Discuss the etio-pathogenesis, clinical presentation and management of Malabsorption in children and its causes including celiac disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE26.1	Discuss the etio-pathogenesis, clinical features and management of acute hepatitis in children	K	KH	Y	Lecture, Small group activity	Written/ Viva voce		Pathology, Microbiology	
PE26.2	Discuss the etio-pathogenesis, clinical features and management of Fulminant Hepatic Failure in children	K	KH	Y	Lecture, Small group activity	Written/ Viva voce		Pathology, Microbiology	
PE26.3	Discuss the etio-pathogenesis, clinical features and management of chronic liver diseases in children	K	KH	Y	Lecture, Small group activity	Written/ Viva voce		Pathology, Microbiology	
PE26.4	Discuss the etio-pathogenesis, clinical features and management of Portal Hypertension in children	K	KH	Y	Lecture, Small group activity	Written/ Viva voce		Pathology	
PE26.9	Interpret Liver Function Tests, viral markers, ultra sonogram report	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment		Pathology	
PE29.1	Discuss the etio-pathogenesis, clinical features, classification and approach to a child with anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
PE29.2	Discuss the etio-pathogenesis, clinical features and management of Iron Deficiency anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
PE29.3	Discuss the etiopathogenesis, clinical features and management of VIT B12, Folate deficiency anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
PE29.4	Discuss the etio-pathogenesis, clinical features and management of Hemolytic anemia, Thalassemia Major, Sickle cell anaemia, Hereditary spherocytosis, Auto-immune hemolytic anaemia and hemolytic uremic syndrome	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
PE29.6	Discuss the cause of thrombocytopenia in children: describe the clinical features and management of Idiopathic Thrombocytopenic Purpura (ITP)	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE29.7	Discuss the etiology, classification, pathogenesis and clinical features of Hemophilia in children	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE29.8	Discuss the etiology, clinical presentation and management of Acute Lymphoblastic Leukemia in children	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE29.9	Discuss the etiology, clinical presentation and management of lymphoma in children	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
General Surgery									
SU2.1	Describe pathophysiology of shock, types of shock, principles of resuscitation including fluid replacement and monitoring	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
SU3.1	Describe the indications and appropriate use of blood and blood products and complications of blood transfusion.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce.		Pathology	
SU5.1	Describe normal wound healing and factors affecting healing.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
SU9.1	Choose appropriate biochemical, microbiological, pathological, imaging investigations and interpret the investigative data in a surgical patient	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Microbiology, Pathology	
SU22.2	Describe the etiopathogenesis of thyroidal swellings	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology,	
Respiratory Medicine									
CT2.1	Define and classify obstructive airway disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
CT2.2	Describe and discuss the epidemiology, risk factors and evolution of obstructive airway disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
CT2.4	Describe and discuss the physiology and pathophysiology of hypoxia and hypercapnia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
CT2.5	Describe and discuss the genetics of alpha 1 antitrypsin deficiency in emphysema	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
CT2.6	Describe the role of the environment in the cause and exacerbation of obstructive airway disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
CT2.7	Describe and discuss allergic and non-allergic precipitants of obstructive airway disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology,	
CT2.11	Describe, discuss and interpret pulmonary function tests	S	SH	Y	Bed side clinic, DOAP session	Skill assessment		Physiology, Pathology	
Orthopaedics									
OR3.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Bone and Joint infections a) Acute Osteomyelitis b) Subacute osteomyelitis c) Acute Suppurative arthritis d) Septic arthritis & HIV infection e) Spirochaetal infection f) Skeletal Tuberculosis	K/S	K/KH/S H	Y	Lecture, Small group discussion, Video assisted lecture	Written/ Viva voce/ OSCE		Pathology, Microbiology	General surgery
OR4.1	Describe and discuss the clinical features, investigation and principles of management of Tuberculosis affecting major joints (Hip, Knee) including cold abscess and caries spine	K	K/KH	Y	Lecture, Small group discussion, Case discussion	Written/ Viva voce/ OSCE		Pathology	General surgery
OR10.1	Describe and discuss the aetiopathogenesis, clinical features, Investigations and principles of management of benign and malignant bone tumours and pathological fractures	K	K/KH	Y	Lecture, Small group discussion, Video assisted interactive lecture	Written/ Viva voce OSCE		Pathology	General surgery, Radiotherapy
Radiotherapy									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical integration	Horizontal Integration
RT1.3	Enumerate, describe and discuss classification and staging of cancer (AJCC, FIGO etc.)	K	KH	Y	Lecture	Written/ Viva voce		Pathology	General Surgery, General Medicine
RT4.5	Describe and discuss role of radiation in management of common malignancies in India (region specific)	K	KH	Y	Lecture and Bed side clinic	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology
RT4.6	Describe and discuss radiotherapy for benign disease	K	KH	Y	Lecture	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology
RT4.7	Counsel patients regarding acute and late effects of radiation and supportive care	K/A/S	KH	Y	Bed side clinic, Group discussion	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology
RT5.1	Describe and discuss cancer prevention, screening, vaccination, cancer registry	K	K	Y	Group discussion	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology

MICROBIOLOGY (CODE: MI)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
MICROBIOLOGY									
Topic: General Microbiology and Immunity		Number of competencies: (11)			Number of procedures that require certification : (01)				
MI1.1	Describe the different causative agents of Infectious diseases+A208, the methods used in their detection, and discuss the role of microbes in health and disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
MI1.2	Perform and identify the different causative agents of Infectious diseases by Gram Stain, ZN stain and stool routine microscopy	S	P	Y	DOAP session	Skill assessment	5		
MI1.3	Describe the epidemiological basis of common infectious diseases	K	KH	Y	Lecture	Written/ Viva voce			Community Medicine
MI1.4	Classify and describe the different methods of sterilization and disinfection. Discuss the application of the different methods in the laboratory, in clinical and surgical practice	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
MI1.5	Choose the most appropriate method of sterilization and disinfection to be used in specific situations in the laboratory, in clinical and surgical practice	K	KH	Y	Small group discussion, Case discussion	Written/Viva voce/ OSPE		General Surgery	
MI1.6	Describe the mechanisms of drug resistance, and the methods of antimicrobial susceptibility testing and monitoring of antimicrobial therapy	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			Pharmacology
MI1.7	Describe the immunological mechanisms in health	K	KH	Y	Lecture	Written/ Viva voce			Pathology
MI1.8	Describe the mechanisms of immunity and response of the host immune system to infections	K	KH	Y	Lecture	Written/ Viva voce		Pediatrics	Pathology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
MI1.9	Discuss the immunological basis of vaccines and describe the Universal Immunisation schedule	K	KH	Y	Lecture	Written/ Viva voce		Paediatrics	
MI1.10	Describe the immunological mechanisms in immunological disorder (hypersensitivity, autoimmune disorders and immunodeficiency states) and discuss the laboratory methods used in detection.	K	KH	Y	Lecture	Written/ Viva voce		Paediatrics	
MI1.11	Describe the immunological mechanisms of transplantation and tumor immunity	K	KH	Y	Lecture	Written/ Viva voce			
Topic: CVS and Blood Number of competencies: (7) Number of procedures that require certification : (NIL)									
MI2.1	Describe the etiologic agents in rheumatic fever and their diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI2.2	Describe the classification etio-pathogenesis, clinical features and discuss the diagnostic modalities of Infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI2.3	Identify the microbial agents causing Rheumatic Heart Disease & infective Endocarditis	S	SH	Y	DOAP session	Skill assessment		General Medicine	Pathology
MI2.4	List the common microbial agents causing anemia. Describe the morphology, mode of infection and discuss the pathogenesis, clinical course, diagnosis and prevention and treatment of the common microbial agents causing Anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI2.5	Describe the etio-pathogenesis and discuss the clinical evolution and the laboratory diagnosis of kalaazar, malaria, filariasis and other common parasites prevalent in India	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI2.6	Identify the causative agent of malaria and filariasis	K/S	SH	Y	DOAP session	Skill assessment		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
MI2.7	Describe the epidemiology, the etio- pathogenesis, evolution complications, opportunistic infections, diagnosis, prevention and the principles of management of HIV	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
Topic: Gastrointestinal and hepatobiliary system Number of competencies: (8) Number of procedures that require certification : (NIL)									
MI3.1	Enumerate the microbial agents causing diarrhea and dysentery. Describe the epidemiology, morphology, pathogenesis, clinical features and diagnostic modalities of these agents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Paediatrics	Pathology
MI3.2	Identify the common etiologic agents of diarrhea and dysentery	S	SH	Y	DOAP session	Skill assessment		General Medicine, Paediatrics	
MI3.3	Describe the enteric fever pathogens and discuss the evolution of the clinical course and the laboratory diagnosis of the diseases caused by them	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Pathology
MI3.4	Identify the different modalities for diagnosis of enteric fever. Choose the appropriate test related to the duration of illness	S	KH	Y	DOAP session	Skill assessment		General Medicine	Pathology
MI3.5	Enumerate the causative agents of food poisoning and discuss the pathogenesis, clinical course and laboratory diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology
MI3.6	Describe the etio-pathogenesis of Acid peptic disease (APD) and the clinical course. Discuss the diagnosis and management of the causative agent of APD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Pathology
MI3.7	Describe the epidemiology, the etio-pathogenesis and discuss the viral markers in the evolution of Viral hepatitis. Discuss the modalities in the diagnosis and prevention of viral hepatitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
MI3.8	Choose the appropriate laboratory test in the diagnosis of viral hepatitis with emphasis on viral markers	K	KH	Y	Small group discussion, Case discussion	Written/ Viva voce/ OSPE		General Medicine	Pathology
Topic: Musculoskeletal system skin and soft tissue infections Number of competencies: (3) Number of procedures that require certification : (NIL)									
MI4.1	Enumerate the microbial agents causing anaerobic infections. Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of anaerobic infections	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
MI4.2	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of bone & joint infections	K	KH	Y	Lecture	Written/ Viva voce		Orthopaedics	
MI4.3	Describe the etio-pathogenesis of infections of skin and soft tissue and discuss the clinical course and the laboratory diagnosis	K	KH	Y	Lecture	Written/ Viva voce		Dermatology, Venereology & Leprosy, General Surgery	
Topic: Central Nervous System infections Number of competencies: (3) Number of procedures that require certification : (NIL)									
MI5.1	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of meningitis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Pathology
MI5.2	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of encephalitis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Pathology
MI5.3	Identify the microbial agents causing meningitis	S	SH	Y	DOAP session	Skill assessment		General Medicine, Pediatrics	
Topic: Respiratory tract infections Number of competencies: (3) Number of procedures that require certification : (02)									
MI6.1	Describe the etio-pathogenesis, laboratory diagnosis and prevention of Infections of upper and lower respiratory tract	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
MI6.2	Identify the common etiologic agents of upper respiratory tract infections (Gram Stain)	S	P	Y	DOAP session	Skill assessment	3	General Medicine	
MI6.3	Identify the common etiologic agents of lower respiratory tract infections (Gram Stain & Acid fast stain)	S	P	Y	DOAP session	Skill assessment	3	General Medicine	
Topic: Genitourinary & Sexually transmitted infections Number of competencies: (3) Number of procedures that require certification : (NIL)									
MI7.1	Describe the etio-pathogenesis and discuss the laboratory diagnosis of infections of genitourinary system	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
MI7.2	Describe the etio-pathogenesis and discuss the laboratory diagnosis of sexually transmitted infections. Recommend preventive measures	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy, Obstetrics & Gynaecology	
MI7.3	Describe the etio-pathogenesis, clinical features, the appropriate method for specimen collection, and discuss the laboratory diagnosis of Urinary tract infections	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Zoonotic diseases and miscellaneous Number of competencies: (16) Number of procedures that require certification : (01)									
MI8.1	Enumerate the microbial agents and their vectors causing Zoonotic diseases. Describe the morphology, mode of transmission, pathogenesis and discuss the clinical course, laboratory diagnosis and prevention	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
MI8.2	Describe the etio-pathogenesis of opportunistic infections (OI) and discuss the factors contributing to the occurrence of OI, and the laboratory diagnosis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Pathology
MI8.3	Describe the role of oncogenic viruses in the evolution of virus associated malignancy	K	KH	Y	Lecture	Written		General Medicine	Pathology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
MI8.4	Describe the etiologic agents of emerging Infectious diseases. Discuss the clinical course and diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Community Medicine	
MI8.5	Define Healthcare Associated Infections (HAI) and enumerate the types. Discuss the factors that contribute to the development of HAI and the methods for prevention	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Community Medicine	
MI8.6	Describe the basics of Infection control	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Community Medicine
MI8.7	Demonstrate Infection control practices and use of Personal Protective Equipments (PPE)	S	P	Y	DOAP session	Skill assessment	3 each in (Hand hygiene & PPE)	General Surgery	Community Medicine
MI8.8	Describe the methods used and significance of assessing the microbial contamination of food, water and air	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
MI8.9	Discuss the appropriate method of collection of samples in the performance of laboratory tests in the detection of microbial agents causing infectious diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
MI8.10	Demonstrate the appropriate method of collection of samples in the performance of laboratory tests in the detection of microbial agents causing Infectious diseases	S	SH	Y	DOAP session	Skill assessment			
MI8.11	Demonstrate respect for patient samples sent to the laboratory for performance of laboratory tests in the detection of microbial agents causing Infectious diseases	A	SH	Y	DOAP session	Skill assessment			
MI8.12	Discuss confidentiality pertaining to patient identity in laboratory results	A	KH	Y	Lecture, Small group discussion	Viva voce			
MI8.13	Choose the appropriate laboratory test in the diagnosis of the infectious disease	K	KH	Y	Small group discussions, Case discussion	Written/ Viva voce/ OSPE			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
MI8.14	Demonstrate confidentiality pertaining to patient identity in laboratory results	A	SH	Y	DOAP session	Skill assessment		AETCOM	
MI8.15	Choose and Interpret the results of the laboratory tests used in diagnosis of the infectious diseases	K/S	SH	Y	Small group discussion, Case discussion	Written/ Viva voce/ OSPE			
MI8.16	Describe the National Health Programs in the prevention of common infectious disease (for information purpose only as taught in CM)	K	K	Y	Lecture	Written/ Viva voce			Community Medicine
	*causative agents of Infectious diseases are inclusive of bacterial, viral, parasites and fungal agents causing various clinical conditions.								
	Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation								
Integration									
Biochemistry									
BI10.5	Describe antigens and concepts involved in vaccine development.	K	KH	Y	Lectures, Small group discussion	Written/ Viva voce		Pathology, Pediatrics, Microbiology	
Pathology									
PA7.5	Describe the immunology and the immune response to cancer	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			Microbiology
PA9.1	Describe the principles and mechanisms involved in immunity	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Microbiology
PA9.2	Describe the mechanism of hypersensitivity reactions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PA9.3	Describe the HLA system and the immune principles involved in transplant and mechanism of transplant rejection	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology
PA9.6	Define and describe the pathogenesis and pathology of HIV and AIDS	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA10.1	Define and describe the pathogenesis and pathology of malaria	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA10.2	Define and describe the pathogenesis and pathology of cysticercosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA10.3	Define and describe the pathogenesis and pathology of leprosy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA10.4	Define and describe the pathogenesis and pathology of common bacterial, viral, protozoal and helminthic diseases	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA22.5	Enumerate and describe infections transmitted by blood transfusion	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology
PA26.1	Define and describe the etiology, types, pathogenesis, stages, morphology and complications of pneumonia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA26.2	Describe the etiology, gross and microscopic appearance and complications of lung abscess	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA26.3	Define and describe the etiology, types, pathogenesis, stages, morphology and complications and evaluation of Obstructive Airway Disease (OAD) and bronchiectasis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	Microbiology
PA26.4	Define and describe the etiology, types, pathogenesis, stages, morphology, microscopic appearance and complications of tuberculosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PA27.4	Describe the etiology, pathophysiology, pathology, gross and microscopic features, criteria and complications of rheumatic fever	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA27.6	Describe the etiology, pathophysiology, pathology, gross and microscopic, features diagnosis and complications of infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA27.10	Describe the etiology, pathophysiology, pathology features and complications of syphilis on the cardiovascular system	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA33.1	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of osteomyelitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Orthopaedics	Microbiology
PA35.1	Describe the etiology, types and pathogenesis, differentiating factors, CSF findings in meningitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA35.3	Identify the etiology of meningitis based on given CSF parameters	S	P	Y	DOAP session	Skill Assessment	1	General Medicine	Microbiology
Pharmacology									
PH1.43	Describe and discuss the rational use of antimicrobials including antibiotic stewardship program	K	KH	Y	Lecture	Written/ Viva voce		General Medicine Pediatrics	Microbiology
PH1.45	Describe the drugs used in MDR and XDR Tuberculosis	K	KH	Y	Lecture	Written/ Viva voce		Respiratory Medicine	Microbiology
PH1.46	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of antileprotic drugs	K	KH	Y	Lecture	Written/ Viva voce		Dermatology, Venereology & Leprosy	Microbiology
PH1.47	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in malaria, KALA-AZAR, amebiasis and intestinal helminthiasis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Microbiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PH1.48	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in UTI/ STD and viral diseases including HIV	K	KH	Y	Lecture	Written/Viva voce			Microbiology
Community Medicine									
CM3.3	Describe the aetiology and basis of water borne diseases/ jaundice/hepatitis/ diarrheal diseases	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Microbiology, General Medicine, Pediatrics	
CM3.6	Describe the role of vectors in the causation of diseases. Also discuss National Vector Borne disease Control Program	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
CM3.7	Identify and describe the identifying features and life cycles of vectors of Public Health importance and their control measures	S	SH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		Microbiology	
CM5.7	Describe food hygiene	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology
CM7.7	Describe and demonstrate the steps in the Investigation of an epidemic of communicable disease and describe the principles of control measures	S	SH	Y	Small group discussion, DOAP sessions	Written/ Skill assessment		General Medicine	Microbiology
CM8.1	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for communicable diseases	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		General Medicine, Pediatrics	Microbiology, Pathology
CM14.1	Define and classify hospital waste	K	KH	Y	Lecture, Small group discussion, visit to hospital	Written/ Viva voce			Microbiology
CM14.2	Describe various methods of treatment of hospital waste	K	KH	Y	Lecture, Small group discussion, visit to hospital	Written/ Viva voce			Microbiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
CM14.3	Describe laws related to hospital waste management	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology
Dermatology, Venereology & Leprosy									
DR6.1	Describe the etiology pathogenesis and diagnostic features of pediculosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Microbiology
DR7.1	Describe the etiology microbiology pathogenesis and clinical presentations and diagnostic features of dermatophytes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Microbiology
DR7.2	Identify candida species in fungal scrapings and KOH mount	S	SH	Y	DOAP session	Skill assessment			Microbiology
DR7.3	Describe the pharmacology and action of antifungal (systemic and topical) agents. Enumerate side effects of antifungal therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology ,Pharmacology
DR8.1	Describe the etiology microbiology pathogenesis and clinical presentations and diagnostic features of common viral infections of the skin	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Microbiology
DR9.1	Classify, describe the epidemiology, etiology, microbiology, pathogenesis and clinical presentations and diagnostic features of Leprosy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology, Community Medicine
DR10.1	Identify and classify syphilis based on the presentation and clinical manifestations	S	SH	Y	Bedside clinic	Skill assessment		General Medicine	Microbiology
DR10.2	Identify spirochete in a dark ground microscopy	S	SH	Y	DOAP session	Skill assessment			Microbiology
DR10.3	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for syphilis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Microbiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
DR10.6	Describe the etiology, diagnostic and clinical features of non-syphilitic sexually transmitted diseases (chancroid, donovanosis and LGV)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
DR10.7	Identify and differentiate based on the clinical features non-syphilitic sexually transmitted diseases (chancroid, donovanosis and LGV)	S	SH	Y	Bedside clinic	Skill assessment		General Medicine	Microbiology
DR10.8	Enumerate the indications and describe the pharmacology, indications and adverse reactions of drugs used in the non-syphilitic sexually transmitted diseases (chancroid, donovanosis and LGV)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Microbiology
DR11.1	Describe the etiology, pathogenesis and clinical features of the dermatologic manifestations of HIV and its complications including opportunistic infections	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
DR11.2	Identify and distinguish the dermatologic manifestations of HIV its complications, opportunistic infections and adverse reactions	S	SH	Y	Bedside clinic	Skill assessment		General Medicine	Microbiology
DR11.3	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for dermatologic lesions in HIV	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	Pharmacology Microbiology
DR12.7	Identify and distinguish fixed drug eruptions and Steven Johnson syndrome from other skin lesions	S	SH	Y	Bedside clinic	Skill assessment		General Medicine	Pathology, Microbiology
DR14.1	Describe the etiology, pathogenesis and clinical precipitating features and classification of Urticaria and angioedema	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology, Pathology
DR15.2	Identify staphylococcus on a gram stain	S	SH	Y	Bedside clinic	Skill assessment			Microbiology
DR15.3	Enumerate the indications and describe the pharmacology, indications and adverse reactions of topical and systemic drugs used in treatment of pyoderma	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	Microbiology, Pharmacology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
Dentistry									
DE1.2	Discuss the role of causative microorganisms in the aetio-pathogenesis of dental caries	K	KH	Y	Lecture, Small group discussion	Viva voce		Microbiology	
DE1.4	Discuss the role of dental caries as a focus of sepsis	K	KH	Y	Lecture, Small group discussion	Viva voce		Microbiology, General Medicine	
General Medicine									
IM1.3	Describe and discuss the aetiology, microbiology, pathogenies and clinical evolution of rheumatic fever, criteria, degree of rheumatic activity and rheumatic valvular heart disease and its complications including infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology, Microbiology	
IM1.9	Describe and discuss the clinical presentation and features, diagnosis, recognition and management of acute rheumatic fever	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
IM1.22	Assist and demonstrate the proper technique in collecting specimen for blood culture	S	SH	Y	DOAP session	Skill assessment		Microbiology	
IM1.27	Describe and discuss the role of penicillin prophylaxis in the prevention of rheumatic heart disease	K	KH	Y	Bedside clinic, Small group discussion	Written		Microbiology, Pharmacology	
IM3.1	Define, discuss, describe and distinguish community acquired pneumonia, nosocomial pneumonia and aspiration pneumonia	K	K	Y	Lecture, Small group discussion	short note/ Viva voce		Human Anatomy, Pathology, Microbiology	
IM3.2	Discuss and describe the aetiology of various kinds of pneumonia and their microbiology depending on the setting and immune status of the host	K	K	Y	Lecture, Small group discussion	short note/ Viva voce		Microbiology	
IM3.3	Discuss and describe the pathogenesis, presentation, natural history and complications of pneumonia	K	KH	Y	Lecture , Small group discussion	short note/ Viva voce		Pathology, Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
IM3.7	Order and interpret diagnostic tests based on the clinical presentation including: CBC, Chest X ray PA view, Mantoux, sputum gram stain, sputum culture and sensitivity, pleural fluid examination and culture, HIV testing and ABG	S	SH	Y	Bed side clinic, DOAP session	Skill assessment		Radiodiagnosis, Microbiology	
IM3.10	Demonstrate the correct technique in a mannequin and interpret results of a blood culture	S	SH	Y	DOAP session	Skill assessment		Microbiology	
IM3.11	Describe and enumerate the indications for further testing including HRCT, Viral cultures, PCR and specialised testing	S	SH	Y	Bed side clinic, DOAP session	Skill assessment		Radiodiagnosis, Microbiology	
IM3.12	Select, describe and prescribe based on the most likely aetiology, an appropriate empirical antimicrobial based on the pharmacology and antimicrobial spectrum	S	SH	Y	Bed side clinic, DOAP session	Skill Assessment/ Written/ Viva voce		Pharmacology, Microbiology	
IM3.13	Select, describe and prescribe based on culture and sensitivity appropriate empirical antimicrobial based on the pharmacology and antimicrobial spectrum.	S	SH	Y	Bed side clinic, DOAP session	Skill assessment/ Written/ Viva voce		Pharmacology, Microbiology	
IM3.14	Perform and interpret a sputum gram stain and AFB	S	P	Y	DOAP session	Skill assessment		Microbiology	
IM3.19	Discuss, describe and enumerate the indications and communicate to patients on pneumococcal and influenza vaccines	S/C	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Microbiology	
IM4.1	Describe and discuss the febrile response and the influence of host immune status, risk factors and co-morbidities on the febrile response	K	K	Y	Lecture, Small group discussion	Written		Microbiology	
IM4.2	Describe and discuss the influence of special populations on the febrile response including: the elderly, immune suppression, malignancy and neutropenia, HIV and travel	K	K	Y	Lecture, Small group discussion	Written		Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
IM4.3	Discuss and describe the common causes, pathophysiology and manifestations of fever in various regions in India including bacterial, parasitic and viral causes (e.g. Dengue, Chikungunya, Typhus)	K	K	Y	Lecture, Small group discussion	Written		Microbiology, Community Medicine	
IM4.4	Describe and discuss the pathophysiology and manifestations of inflammatory causes of fever	K	KH	Y	Lecture, Small group discussion	Written		Microbiology	
IM4.5	Describe and discuss the pathophysiology and manifestations of malignant causes of fever including hematologic and lymph node malignancies	K	KH	Y	Lecture, Small group discussion	Written		Pathology, Microbiology	
IM4.6	Discuss and describe the pathophysiology and manifestations of malaria	K	KH	Y	Lecture, Small group discussion	Written		Microbiology	
IM4.8	Discuss and describe the pathophysiology, aetiology and clinical manifestations of fever of unknown origin (FUO) including in a normal host, neutropenic host, nosocomial host and a host with HIV disease	K	K	Y	Lecture, Small group discussion	Written		Microbiology	
IM4.9	Elicit document and present a medical history that helps delineate the aetiology of fever that includes the evolution and pattern of fever, associated symptoms, immune status, comorbidities, risk factors, exposure through occupation, travel and environment and medication use	S	SH	Y	Bed side clinic, DOAP session	Skill assessment		Microbiology	
IM4.12	Order and interpret diagnostic tests based on the differential diagnosis including: CBC with differential, peripheral smear, urinary analysis with sediment, Chest X ray, blood and urine cultures, sputum gram stain and cultures, sputum AFB and cultures, CSF analysis, pleural and body fluid analysis, stool routine and culture and QBC	K	SH	Y	Bedside clinic, Skill assessment	Skill assessment		Pathology, Microbiology	
IM4.13	Perform and interpret a sputum gram stain	S	SH	Y	DOAP session	Log book documentation		Microbiology	
IM4.14	Perform and interpret a sputum AFB	S	SH	Y	DOAP session	Log book documentation		Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
IM4.15	Perform and interpret a malarial smear	S	SH	Y	DOAP session	Log book documentation/ Skill assessment		Microbiology	
IM4.19	Assist in the collection of blood and wound cultures	S	SH	Y	DOAP session	Log book/ documentation		Microbiology	
IM4.20	Interpret a PPD (Mantoux)	S	SH	Y	DOAP session	Log book/ documentation		Microbiology	
IM4.23	Prescribe drugs for malaria based on the species identified, prevalence of drug resistance and national programs	S	SH	Y	Small group discussion	Skill assessment		Microbiology, Pharmacology	
IM4.26	Counsel the patient on malarial prevention	C	SH	Y	DOAP session	Skill assessment		Microbiology, Pharmacology	
IM5.4	Describe and discuss the epidemiology, microbiology, immunology and clinical evolution of infective (viral) hepatitis	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	
IM5.14	Outline a diagnostic approach to liver disease based on hyperbilirubinemia, liver function changes and hepatitis serology	S	SH	Y	Bedside clinic, Small group discussion	Viva voce/ Written		Pathology, Microbiology	
IM5.17	Enumerate the indications precautions and counsel patients on vaccination for hepatitis	K/C	SH	Y	written Small group discussion	Written/ Viva voce		Microbiology	
IM6.1	Describe and discuss the symptoms and signs of acute HIV seroconversion	K	KH	Y	Lecture, Small group discussion	Short notes/ Viva voce		Microbiology	
IM6.2	Define and classify HIV AIDS based on the CDC criteria	K	KH	Y	Lecture, Small group discussion	Short notes/ Viva voce		Microbiology	
IM6.3	Describe and discuss the relationship between CDC count and the risk of opportunistic infections	K	KH	Y	Lecture, Small group discussion	Short notes/ Viva voce		Microbiology	
IM6.4	Describe and discuss the pathogenesis, evolution and clinical features of common HIV related opportunistic infections	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
IM6.10	Choose and interpret appropriate diagnostic tests to diagnose and classify the severity of HIV-AIDS including specific tests of HIV, CDC	K	KH	Y	Bedside clinic, DOAP session, Small group discussion	Written/ Skill assessment		Pathology, Microbiology	
IM6.13	Describe and enumerate the indications and side effects of drugs for bacterial, viral and other types of diarrhea	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Microbiology	
IM6.14	Perform and interpret a gram stain of the sputum	S	P	Y	DOAP session	Skill assessment		Microbiology	
IM6.17	Describe and discuss the principles of HAART, the classes of antiretroviral used, adverse reactions and interactions	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Pharmacology	
IM6.18	Describe and discuss the principles and regimens used in post exposure prophylaxis	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Pharmacology	
IM6.19	Enumerate the indications of and discuss about prophylactic drugs used to prevent HIV related opportunistic infections	K/C	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	
IM13.3	Describe the relationship between infection and cancers	K	K	Y	Lecture, Small group discussion	Short notes/ Viva voce		Pathology, Microbiology	General Surgery
IM15.15	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy of acid peptic disease including Helicobacter pylori	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Microbiology	
IM16.1	Describe and discuss the aetiology of acute and chronic diarrhea including infectious and non-infectious causes	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
IM6.13	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy for bacterial, viral and other types of diarrhea	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Microbiology	
IM16.8	Choose and interpret diagnostic tests based on the clinical diagnosis including complete blood count, and stool examination	S	SH	Y	Bedside clinic, Skills lab, Small group discussion	Skill assessment/ Short note/ Viva voce		Microbiology, Pathology	
IM16.9	Identify common parasitic causes of diarrhea under the microscope in a stool specimen	S	SH	Y	DOAP session	Skill assessment		Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
IM16.10	Identify Vibrio cholera in a hanging drop specimen	S	SH	Y	DOAP session	Skill Assessment		Microbiology	
IM16.11	Enumerate the indications for stool cultures and blood cultures in patients with acute diarrhea	K	KH	Y	Lectures, Small group discussion	Written/ Viva voce		Microbiology	
IM16.13	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy for parasitic causes of diarrhea	K	K	Y	Lectures, Small group discussion	Written/ Viva voce		Pharmacology, Microbiology	
IM17.7	Enumerate the indications and describe the findings in the CSF in patients with meningitis	K	K	Y	Small group discussion, Bedside clinic	Skill Assessment		Microbiology, Pathology	
IM17.8	Demonstrate in a mannequin or equivalent the correct technique for performing a lumbar puncture	S	SH	Y	DOAP session	Skill assessment		Microbiology, Pathology	
IM17.9	Interpret the CSF findings when presented with various parameters of CSF fluid analysis	S	SH	Y	Small group discussion, Bedside clinic	Skill assessment		Microbiology, Pathology	
IM25.1	Describe and discuss the response and the influence of host immune status, risk factors and comorbidities on zoonotic disease (eg. Leptospirosis, Rabies) and non febrile infectious disease (eg. Tetanus)	K	K	Y	Lecture, Small group discussion	Written		Microbiology, Community Medicine	
IM25.2	Describe and discuss the common causes pathophysiology and manifestations of these diseases	K	K	Y	Lecture, Small group discussion	Written		Microbiology, Community Medicine	
IM25.3	Describe and discuss the pathophysiology and manifestations of these diseases	K	KH	Y	Lecture, Small group discussion	Written		Microbiology	
IM25.9	Assist in the collection of blood and other specimen cultures	S	SH	Y	DOAP session	Log book documentation		Microbiology	
IM25.11	Develop an appropriate empiric treatment plan based on the patient's clinical and immune status pending definitive diagnosis	C	SH	Y	DOAP session	Skill assessment		Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
Pediatrics									
PE19.1	Explain the components of the Universal immunization Program and the sub National Immunization Programs	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology	
PE19.2	Explain the epidemiology of Vaccine preventable diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology	
PE19.3	Vaccine description with regard to classification of vaccines, strain used, dose, route, schedule, risks, benefits and side effects, indications and contraindications	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology	
PE19.4	Define cold chain and discuss the methods of safe storage and handling of vaccines	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology	
PE19.5	Discuss immunization in special situations – HIV positive children, immunodeficiency, preterm, organ transplants, those who received blood and blood products, splenectomised children, adolescents, travellers	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology	
PE21.1	Enumerate the etio-pathogenesis clinical features, complications and management of Urinary Tract infection in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE23.6	Discuss the etio-pathogenesis and clinical features and management of Infective endocarditis in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology, Microbiology	
PE24.1	Discuss the etio-pathogenesis, classification, clinical presentation and management of diarrheal diseases in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	
PE24.2	Discuss the classification and clinical presentation of various types of diarrheal dehydration	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	
PE24.5	Discuss the role of antibiotics, antispasmodics, anti-secretory drugs, probiotics, anti- emetics in acute diarrheal diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PE24.6	Discuss the causes, clinical presentation and management of persistent diarrhoea in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE24.8	Discuss the causes, clinical presentation and management of dysentery in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Microbiology	
PE24.12	Perform and interpret stool examination including Hanging Drop	S	P	N	Bed side clinics, Skills lab	log book	2	Microbiology	
PE26.1	Discuss the etio-pathogenesis, clinical features and management of acute hepatitis in children	K	KH	Y	Lecture, Small group activity	Written/ Viva voce		Pathology, Microbiology	
PE26.2	Discuss the etio-pathogenesis, clinical features and management of Fulminant Hepatic Failure in children	K	KH	Y	Lecture, Small group activity	Written/ Viva voce		Pathology, Microbiology	
PE26.3	Discuss the etio-pathogenesis, clinical features and management of chronic liver diseases in children	K	KH	Y	Lecture, Small group activity	Written/ Viva voce		Pathology, Microbiology	
PE26.12	Discuss the prevention of Hep B infection – Universal precautions and Immunisation	K	KH	Y	Lecture, Small group discussion activity	Written/ Viva voce		Microbiology	
PE30.1	Discuss the etio-pathogenesis, clinical features, complications, management and prevention of meningitis in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE30.2	Distinguish bacterial, viral and tuberculous meningitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE30.13	Discuss the etio-pathogenesis, clinical features, management and prevention of Poliomyelitis in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE30.21	Interpret and explain the findings in a CSF analysis	S	SH	Y	Small group discussion	Log book		Microbiology	Respiratory Medicine
PE34.1	Discuss the epidemiology, clinical features, clinical types, complications of Tuberculosis in Children and Adolescents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	Respiratory Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PE34.2	Discuss the various diagnostic tools for childhood tuberculosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	Respiratory Medicine
PE34.3	Discuss the various regimens for management of Tuberculosis as per National Guidelines	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Community Medicine Pharmacology	Respiratory Medicine
PE34.4	Discuss the preventive strategies adopted and the objectives and outcome of the National Tuberculosis Control Program	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Community Medicine Pharmacology	Respiratory Medicine
PE34.6	Identify a BCG scar	S	P	Y	Bed side clinics, Skills lab	Skill Assessment	3	Microbiology	Respiratory Medicine
PE34.7	Interpret a Mantoux test	S	P	Y	Bed side clinics Skills lab	Skill assessment	3	Microbiology	Respiratory Medicine
PE34.9	Interpret blood tests in the context of laboratory evidence for tuberculosis	S	SH	N	Bed side clinics, Small group discussion	Log book		Microbiology	Respiratory Medicine
PE34.10	Discuss the various samples for demonstrating the organism eg Gastric Aspirate, Sputum, CSF, FNAC	K	KH	Y	Bed side clinics, Small group discussion	Written/ Viva voce		Microbiology	Respiratory Medicine
PE34.11	Perform AFB staining	S	P	Y	DOAP session	Log book/journal	3	Microbiology	Respiratory Medicine
PE34.12	Enumerate the indications and Discuss the limitation of methods of culturing M.Tuberculi	K	KH	Y	Small group discussion	Written/ Viva voce		Microbiology	
General Surgery									
SU6.1	Define and describe the aetiology and pathogenesis of surgical infections	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
SU9.1	Choose appropriate biochemical, microbiological, pathological, imaging investigations and interpret the investigative data in a surgical patient	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Microbiology, Pathology	
SU13.1	Describe the immunological basis of organ transplantation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
SU13.2	Discuss the Principles of immunosuppressive therapy.Enumerate Indications, describe surgical principles, management of organ transplantation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Pharmacology	
SU14.1	Describe aseptic techniques, sterilization and disinfection	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
SU15.1	Describe Classification of hospital waste and appropriate methods of disposal	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
SU29.3	Describe the Clinical features, Investigations and principles of management of urinary tract infections	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
Orthopaedics									
OR3.1	Describe and discuss the aetiopathogenesis, clinical features, Investigations and principles of management of Bone and Joint infections a) Acute Osteomyelitis b) Subacute osteomyelitis c) Acute Suppurative arthritis d) Septic arthritis & HIV infection e) Spirochaetal infection f) Skeletal Tuberculosis	K/S	K/KH/SH	Y	Lecture, Small group discussion, Video assisted lecture	Written/ Viva voce/ OSCE		Pathology, Microbiology	
Respiratory Medicine									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/ P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
CT1.2	Describe and discuss the microbiology of tubercle bacillus, mode of transmission, pathogenesis, clinical evolution and natural history of pulmonary and extra pulmonary forms (including lymph node, bone and CNS).	K	KH	Y	Lecture, Small group discussion	Written		Microbiology	
CT1.3	Discuss and describe the impact of confection with HIV and other co-morbid conditions like diabetes on the natural history of tuberculosis	K	K	Y	Lecture, Small group discussion	Written		Microbiology	
CT1.4	Describe the epidemiology, the predisposing factors and microbial and therapeutic factors that determine resistance to drugs	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology, Pharmacology	
CT1.7	Perform and interpret a PPD (Mantoux) and describe and discuss the indications and pitfalls of the test	S	P	Y	DOAP session	Maintenance of log book		Microbiology	
CT1.10	Perform and interpret an AFB stain	S	P	Y	DOAP session	Skill assessment	1	Microbiology	
CT1.12	Enumerate the indications for tests including: serology, special cultures and polymerase chain reaction and sensitivity testing	K	KH	Y	Small group discussion, Lecture	Short note/ Viva voce		Microbiology	
CT1.13	Describe and discuss the origins, indications, technique of administration, efficacy and complications of the BCG vaccine	K	KH	Y	Lecture, Small group discussion	Short note/ Viva voce		Microbiology	

FORENSIC MEDICINE INCLUDING TOXICOLOGY (CODE: FM)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FORENSIC MEDICINE & TOXICOLOGY									
Topic: General Information		Number of competencies: (11)			Number of procedures that require certification: (NIL)				
FM1.1	Demonstrate knowledge of basics of Forensic Medicine like definitions of Forensic medicine, Clinical Forensic Medicine, Forensic Pathology, State Medicine, Legal Medicine and Medical Jurisprudence	K	KH	N	Lecture, Small Group Discussion	Written/ Viva voce			
FM1.2	Describe history of Forensic Medicine	K	KH	N	Lecture, Small Group Discussion	Written/ Viva voce			
FM1.3	Describe legal procedures including Criminal Procedure Code, Indian Penal Code, Indian Evidence Act, Civil and Criminal Cases, Inquest (Police Inquest and Magistrate's Inquest), Cognizable and Non-cognizable offences	K	KH	N	Lecture, Small Group Discussion	Written/ Viva voce			
FM1.4	Describe Courts in India and their powers: Supreme Court, High Court, Sessions court, Magistrate's Court, Labour Court, Family Court, Executive Magistrate Court and Juvenile Justice Board	K	KH	N	Lecture, Small Group Discussion	Written/ Viva voce			
FM1.5	Describe Court procedures including issue of Summons, conduct money, types of witnesses, recording of evidence oath, affirmation, examination in chief, cross examination, re-examination and court questions, recording of evidence & conduct of doctor in witness box	K	KH	N	Lecture, Small Group Discussion, Moot Court	Written/ Viva voce			
FM1.6	Describe Offenses in Court including Perjury; Court strictures vis-a-vis Medical Officer	K	KH	N	Lecture, Small Group Discussion	Written/ Viva voce			
FM1.7	Describe Dying Declaration & Dying Deposition	K	KH	Y	Lecture, Small Group Discussion	Written/ Viva voce			
FM1.8	Describe the latest decisions/notifications/resolutions/circulars/standing orders related to medico-legal practice issued by Courts/Government authorities etc.	K	KH	Y	Lecture, Small Group Discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM1.9	Describe the importance of documentation in medical practice in regard to medicolegal examinations, Medical Certificates and medicolegal reports especially - maintenance of patient case records, discharge summary, prescribed registers to be maintained in Health Centres. - maintenance of medico-legal register like accident register. - documents of issuance of wound certificate - documents of issuance of drunkenness certificate. - documents of issuance of sickness and fitness certificate. - documents for issuance of death certificate. -documents of Medical Certification of Cause of Death - Form Number4 and 4A - documents for estimation of age by physical, dental and radiological examination and issuance of certificate	K	KH	Y	Lecture, Small Group Discussion	Written/ Viva voce		Radiodiagnosis, General Surgery, General Medicine, Pediatrics	
FM1.10	Select appropriate cause of death in a particular scenario by referring ICD 10 code	K	KH	Y	Lecture, Small Group Discussion	Written/ Viva voce			
FM1.11	Write a correct cause of death certificate as per ICD 10 document	S	SH	Y	Lecture, Small Group Discussion	Written/ Viva voce			
Topic: Forensic Pathology Number of competencies: (35) Number of procedures that require certification : (NIL)									
FM2.1	Define, describe and discuss death and its types including somatic/clinical/cellular, molecular and brain-death, Cortical Death and Brainstem Death	K	KH	Y	Lecture/Small group discussion	Written/ Viva voce		Pathology	
FM2.2	Describe and discuss natural and unnatural deaths	K	KH	Y	Lecture, Small Group Discussion	Written/ Viva voce		Pathology	
FM2.3	Describe and discuss issues related to sudden natural deaths	K	KH	Y	Lecture, Small Group Discussion	Written/ Viva voce		Pathology	
FM2.4	Describe salient features of the Organ Transplantation and The Human Organ Transplant (Amendment) Act 2011 and discuss ethical issues regarding organ donation	K	KH	Y	Lecture/Small group discussion	Written/ Viva voce		AETCOM	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM2.5	Discuss moment of death, modes of death - coma, asphyxia and syncope	K	KH	Y	Lecture, Small Group Discussion	Written/ Viva voce		Psychiatry, Pathology	
FM2.6	Discuss presumption of death and survivorship	K	KH	Y	Lecture, Small Group Discussion	Written/ Viva voce			
FM2.7	Describe and discuss suspended animation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
FM2.8	Describe and discuss postmortem changes including signs of death, cooling of body, post-mortem lividity, rigor mortis, cadaveric spasm, cold stiffening and heat stiffening	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE			
FM2.9	Describe putrefaction, mummification, adipocere and maceration	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE			
FM2.10	Discuss estimation of time since death	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE			
FM2.11	Describe and discuss autopsy procedures including post-mortem examination, different types of autopsies, aims and objectives of post-mortem examination	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE		Pathology	
FM2.12	Describe the legal requirements to conduct post-mortem examination and procedures to conduct medico-legal post-mortem examination	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE		Pathology	
FM2.13	Describe and discuss obscure autopsy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
FM2.14	Describe and discuss examination of clothing, preservation of viscera on post-mortem examination for chemical analysis and other medico-legal purposes, post-mortem artefacts	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM 2.15	Describe special protocols for conduction of medico-legal autopsies in cases of death in custody or following violation of human rights as per National Human Rights Commission Guidelines	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE			
FM2.16	Describe and discuss examination of mutilated bodies or fragments, charred bones and bundle of bones	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce/ OSPE			
FM2.17	Describe and discuss exhumation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
FM2.18	Crime Scene Investigation:- Describe and discuss the objectives of crime scene visit, the duties & responsibilities of doctors on crime scene and the reconstruction of sequence of events after crime scene investigation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
FM2.19	Investigation of anaesthetic, operative deaths: Describe and discuss special protocols for conduction of autopsy and for collection, preservation and dispatch of related material evidences	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Anesthesiology, General Surgery	
FM2.20	Mechanical asphyxia: Define, classify and describe asphyxia and medico-legal interpretation of post-mortem findings in asphyxial deaths	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE			
FM2.21	Mechanical asphyxia: Describe and discuss different types of hanging and strangulation including clinical findings, causes of death, post-mortem findings and medico-legal aspects of death due to hanging and strangulation including examination, preservation and dispatch of ligature material	K	KH	Y	Lecture/Small group discussion, Autopsy DOAP session	Written/ Viva voce/ OSPE			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM2.22	Mechanical asphyxia: Describe and discuss patho-physiology, clinical features, post-mortem findings and medico-legal aspects of traumatic asphyxia, obstruction of nose & mouth, suffocation and sexual asphyxia	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE			
FM2.23	Describe and discuss types, patho-physiology, clinical features, post-mortem findings and medico-legal aspects of drowning, diatom test and, gettler test.	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE			
FM2.24	Thermal deaths: Describe the clinical features, post-mortem finding and medicolegal aspects of injuries due to physical agents like heat (heat-hyper-pyrexia, heat stroke, sun stroke, heat exhaustion/prostration, heat cramps [miner's cramp] or cold (systemic and localized hypothermia, frostbite, trench foot, immersion foot)	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce			
FM2.25	Describe types of injuries, clinical features, patho-physiology, post-mortem findings and medico-legal aspects in cases of burns, scalds, lightening, electrocution and radiations	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE		General Surgery	
FM2.26	Describe and discuss clinical features, post-mortem findings and medico-legal aspects of death due to starvation and neglect	K	KH	Y	Lecture/Small group discussion	Written/ Viva voce			
FM2.27	Define and discuss infanticide, foeticide and stillbirth	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
FM2.28	Describe and discuss signs of intrauterine death, signs of live birth, viability of foetus, age determination of foetus, DOAP session of ossification centres, Hydrostatic test, Sudden Infants Death syndrome and Munchausen's syndrome by proxy	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/Viva voce / OSCE		Pediatrics, Human Anatomy	
FM2.29	Demonstrate respect to the directions of courts, while appearing as witness for recording of evidence under oath or affirmation, examination in chief, cross examination, re-examination and court questions, recording of evidence	A and C	SH	Y	Lecture, Small group discussion, Moot Court, Court visits, Role Play	Role Play during internal assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM2.30	Have knowledge/awareness of latest decisions/notifications/resolutions/circulars/standing orders related to medico-legal practice issued by Courts/Government authorities etc	A	K	Y	Lecture/Small group discussion	Written/ Viva voce			
FM2.31	Demonstrate ability to work in a team for conduction of medico-legal autopsies in cases of death following alleged negligence medical dowry death, death in custody or following violation of human rights as per National Human Rights Commission Guidelines on exhumation	A	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE			
FM2.32	Demonstrate ability to exchange information by verbal, or nonverbal communication to the peers, family members, law enforcing agency and judiciary	A and C	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		AETCOM	
FM2.33	Demonstrate ability to use local resources whenever required like in mass disaster situations	A and C	KH	Y	Lecture/Small group discussion	Written/ Viva voce		Community Medicine	
FM2.34	Demonstrate ability to use local resources whenever required like in mass disaster situations	A and C	KH	Y	Lecture/Small group discussion	Written/ Viva voce		General Medicine, AETCOM	
FM2.35	Demonstrate professionalism while conducting autopsy in medicolegal situations, interpretation of findings and making inference/opinion, collection preservation and dispatch of biological or trace evidences	A and C	KH/SH		Lecture, small group discussions, DOAP session	Written/ Viva voce/ OSPE		AETCOM	
Topic: Clinical Forensic Medicine Number of competencies:(33) Number of procedures that require certification:(NIL)									
FM3.1	IDENTIFICATION Define and describe Corpus Delicti, establishment of identity of living persons including race, Sex, religion, complexion, stature, age determination using morphology, teeth-eruption, decay, bite marks, bones-ossification centres, medico-legal aspects of age	K	KH	Y	Lecture, Small group discussion, Bedside clinic, DOAP session	Written/Viva voce/ skill assessment		Human Anatomy	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM3.2	IDENTIFICATION Describe and discuss identification of criminals, unknown persons, dead bodies from the remains-hairs, fibers, teeth, anthropometry, dactylography, foot prints, scars, tattoos, poroscopy and superimposition	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
FM3.3	Mechanical injuries and wounds: Define, describe and classify different types of mechanical injuries, abrasion, bruise, laceration, stab wound, incised wound, chop wound, defense wound, self-inflicted/fabricated wounds and their medico-legal aspects	K	KH	Y	Lecture, Small group discussion Bed side clinic, DOAP session	Written/ Viva voce/ OSCE		General Surgery	
FM3.4	Mechanical injuries and wounds: Define injury, assault & hurt. Describe IPC pertaining to injuries	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
FM3.5	Mechanical injuries and wounds: Describe accidental, suicidal and homicidal injuries. Describe simple, grievous and dangerous injuries. Describe ante-mortem and post-mortem injuries	K	K/KH	Y	Lecture/Small group discussion	Written/ Viva voce			
FM3.6	Mechanical injuries and wounds: Describe healing of injury and fracture of bones with its medico-legal importance	K	K/KH	Y	Lecture/Small group discussion	Written/ Viva voce		General Surgery	
FM3.7	Describe factors influencing infliction of injuries and healing, examination and certification of wounds and wound as a cause of death: Primary and Secondary	K	K/KH	Y	Lecture/Small group discussion	Written/ Viva voce		General Surgery, Orthopaedics	
FM3.8	Mechanical injuries and wounds: Describe and discuss different types of weapons including dangerous weapons and their examination	K	K/KH	Y	Lecture/Small group discussion	Written/ Viva voce		General Surgery, Orthopaedics	
FM3.9	Firearm injuries: Describe different types of firearms including structure and components. Along with description of ammunition propellant charge and mechanism of fire-arms, different types of cartridges and bullets and various terminology in relation of firearm – caliber, range, choking	K	K/KH	Y	Lecture/Small group discussion	Written/ Viva voce		General Surgery, Orthopaedics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM3.10	Firearm injuries: Describe and discuss wound ballistics-different types of firearm injuries, blast injuries and their interpretation, preservation and dispatch of trace evidences in cases of firearm and blast injuries, various tests related to confirmation of use of firearms	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, DOAP session	Written/Viva voce/ OSCE		General Surgery, Orthopaedics	
FM3.11	Regional Injuries: Describe and discuss regional injuries to head (Scalp wounds, fracture skull, intracranial haemorrhages, coup and contrecoup injuries), neck, chest, abdomen, limbs, genital organs, spinal cord and skeleton	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic or autopsy, DOAP session	Written/ Viva voce/ OSCE/OSPE		General Surgery, Orthopaedics	
FM3.12	Regional Injuries Describe and discuss injuries related to fall from height and vehicular injuries – Primary and Secondary impact, Secondary injuries, crush syndrome, railway spine	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic or autopsy, DOAP session	Written/ Viva voce/ OSCE/OSPE		General Surgery, Orthopaedics	
FM3.13	Describe different types of sexual offences. Describe various sections of IPC regarding rape including definition of rape (Section 375 IPC), Punishment for Rape (Section 376 IPC) and recent amendments notified till date	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce/ OSCE/OSPE		Obstetrics & Gynaecology	
FM3.14	SEXUAL OFFENCES Describe and discuss the examination of the victim of an alleged case of rape, and the preparation of report, framing the opinion and preservation and despatch of trace evidences in such cases	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, DOAP session	Written/ Viva voce/ OSCE		Obstetrics & Gynaecology, Psychiatry	
FM3.15	SEXUAL OFFENCES Describe and discuss examination of accused and victim of sodomy, preparation of report, framing of opinion, preservation and despatch of trace evidences in such cases	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, DOAP session	Written/ Viva voce/ OSCE		Obstetrics & Gynaecology, Psychiatry	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM3.16	SEXUAL OFFENCES Describe and discuss adultery and unnatural sexual offences- sodomy, incest, lesbianism, buccal coitus, bestiality, indecent assault and preparation of report, framing the opinion and preservation and despatch of trace evidences in such cases	K	K/KH	Y	Lecture/Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, Psychiatry	
FM3.17	Describe and discuss the sexual perversions fetishism, transvestism, voyeurism, sadism, necrophagia, masochism, exhibitionism, frotteurism, Necrophilia	K	K/KH	Y	Lecture/Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, Psychiatry	
FM3.18	Describe anatomy of male and female genitalia, hymen and its types. Discuss the medico-legal importance of hymen. Define virginity, defloration, legitimacy and its medicolegal importance	K	K/KH	Y	Lecture/Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
FM3.19	Discuss the medicolegal aspects of pregnancy and delivery, signs of pregnancy, precipitate labour superfoetation, superfecundation and signs of recent and remote delivery in living and dead	K	K/KH	Y	Lecture/Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
FM3.20	Discuss disputed paternity and maternity	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
FM3.21	Discuss Pre-conception and Pre Natal Diagnostic Techniques (PC&PNDT) - Prohibition of Sex Selection Act 2003 and Domestic Violence Act 2005	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, AETCOM	
FM3.22	Define and discuss impotence, sterility, frigidity, sexual dysfunction, premature ejaculation. Discuss the causes of impotence and sterility in male and female	K	K/KH	Y	Lecture/Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, General Medicine	
FM3.23	Discuss Sterilization of male and female, artificial insemination, Test Tube Baby, surrogate mother, hormonal replacement therapy with respect to appropriate national and state laws	K	K/KH	Y	Lecture/Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM3.24	Discuss the relative importance of surgical methods of contraception (vasectomy and tubectomy) as methods of contraception in the National Family Planning Programme	K	K/KH	N	Lecture, Small group discussion	Written		Obstetrics & Gynaecology	
FM3.25	Discuss the major results of the National Family Health Survey	K	K/KH	N	Lecture	Written		Obstetrics & Gynaecology	
FM3.26	Discuss the national Guidelines for accreditation, supervision & regulation of ART Clinics in India	K	K/KH	Y	Lecture, Small group discussion	Written		Obstetrics & Gynaecology	
FM3.27	Define, classify and discuss abortion, methods of procuring MTP and criminal abortion and complication of abortion. MTP Act 1971	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, AETCOM	
FM3.28	Describe evidences of abortion - living and dead, duties of doctor in cases of abortion, investigations of death due to criminal abortion	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, Pathology	
FM3.29	Describe and discuss child abuse and battered baby syndrome	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
FM3.30	Describe and discuss issues relating to torture, identification of injuries caused by torture and its sequelae, management of torture survivors	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce			
FM3.31	Torture and Human rights Describe and discuss guidelines and Protocols of National Human Rights Commission regarding torture	K	K/KH	N	Lecture/Small group discussion	Written/ Viva voce			
FM3.32	Demonstrate the professionalism while preparing reports in medicolegal situations, interpretation of findings and making inference/opinion, collection preservation and dispatch of biological or trace evidences	A and C	SH	Y	Lecture, Small group discussion	OSPE/Viva voce		AETCOM	
FM3.33	Should be able to demonstrate the professionalism while dealing with victims of torture and human right violations, sexual assaults- psychological consultation, rehabilitation	A and C	K/KH/S H	Y	Lecture/Small group discussion	Written/ Viva voce		AETCOM	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Medical Jurisprudence (Medical Law and ethics)		Number of competencies: (30)			Number of procedures that require certification : (NIL)				
FM4.1	Describe Medical Ethics and explain its historical emergence	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.2	Describe the Code of Medical Ethics 2002 conduct, Etiquette and Ethics in medical practice and unethical practices & the dichotomy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.3	Describe the functions and role of Medical Council of India and State Medical Councils	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.4	Describe the Indian Medical Register	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.5	Rights/privileges of a medical practitioner, penal erasure, infamous conduct, disciplinary Committee, disciplinary procedures, warning notice and penal erasure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.6	Describe the Laws in Relation to medical practice and the duties of a medical practitioner towards patients and society	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.7	Describe and discuss the ethics related to HIV patients	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.8	Describe the Consumer Protection Act-1986 (Medical Indemnity Insurance, Civil Litigations and Compensations), Workman's Compensation Act & ESI Act	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.9	Describe the medico - legal issues in relation to family violence, violation of human rights, NHRC and doctors	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.10	Describe communication between doctors, public and media	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.11	Describe and discuss euthanasia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM, Pharmacology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM4.12	Discuss legal and ethical issues in relation to stem cell research	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM, Pharmacology	
FM4.13	Describe social aspects of Medico-legal cases with respect to victims of assault, rape, attempted suicide, homicide, domestic violence, dowry- related cases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.14	Describe & discuss the challenges in managing medico-legal cases including development of skills in relationship management – Human behaviour, communication skills, conflict resolution techniques	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.15	Describe the principles of handling pressure – definition, types, causes, sources and skills for managing the pressure while dealing with medico-legal cases by the doctor	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.16	Describe and discuss Bioethics	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.17	Describe and discuss ethical Principles: Respect for autonomy, non-maleficence, beneficence & justice	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM, Pharmacology	
FM4.18	Describe and discuss medical negligence including civil and criminal negligence, contributory negligence, corporate negligence, vicarious liability, Res Ipsa Loquitor, prevention of medical negligence and defenses in medical negligence litigations	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.19	Define Consent. Describe different types of consent and ingredients of informed consent. Describe the rules of consent and importance of consent in relation to age, emergency situation, mental illness and alcohol intoxication	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.20	Describe therapeutic privilege, Malingering, Therapeutic Misadventure, Professional Secrecy, Human Experimentation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM4.21	Describe Products liability and Medical Indemnity Insurance	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.22	Explain Oath – Hippocrates, Charaka and Sushruta and procedure for administration of Oath.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM, Pharmacology	
FM4.23	Describe the modified Declaration of Geneva and its relevance	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM, Pharmacology	
FM4.24	Enumerate rights, privileges and duties of a Registered Medical Practitioner. Discuss doctor- patient relationship: professional secrecy and privileged communication	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.25	Clinical research & Ethics Discuss human experimentation including clinical trials	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		AETCOM, Pharmacology	
FM4.26	Discuss the constitution and functions of ethical committees	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM, Pharmacology	
FM4.27	Describe and discuss Ethical Guidelines for Biomedical Research on Human Subjects & Animals	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		AETCOM, Pharmacology	
FM4.28	Demonstrate respect to laws relating to medical practice and Ethical code of conduct prescribed by Medical Council of India and rules and regulations prescribed by it from time to time	A and C	SH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.29	Demonstrate ability to communicate appropriately with media, public and doctors	A and C	KH/SH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
FM4.30	Demonstrate ability to conduct research in pursuance to guidelines or research ethics	A and C	KH/SH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
Topic: Forensic Psychiatry Number of competencies: (06) Number of procedures that require certification: (NIL)									
FM5.1	Classify common mental illnesses including post-traumatic stress disorder (PTSD)	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM5.2	Define, classify and describe delusions, hallucinations, illusion, lucid interval and obsessions with exemplification	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
FM5.3	Describe Civil and criminal responsibilities of a mentally ill person	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
FM5.4	Differentiate between true insanity from feigned insanity	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
FM5.5	Describe & discuss Delirium tremens	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry, General Medicine	
FM5.6	Describe the Indian Mental Health Act, 1987 with special reference to admission, care and discharge of a mentally ill person	K	K/KH	N	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
Topic: Forensic Laboratory investigation in medical legal practice Number of competencies: (03) Number of procedures that require certification: (NIL)									
FM6.1	Describe different types of specimen and tissues to be collected both in the living and dead: Body fluids (blood, urine, semen, faeces saliva), Skin, Nails, tooth pulp, vaginal smear, viscera, skull, specimen for histo-pathological examination, blood grouping, HLA Typing and DNA Fingerprinting. Describe Locard's Exchange Principle	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
FM6.2	Describe the methods of sample collection, preservation, labelling, dispatch, and interpretation of reports	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce			
FM6.3	Demonstrate professionalism while sending the biological or trace evidences to Forensic Science laboratory, specifying the required tests to be carried out, objectives of preservation of evidences sent for examination, personal discussions on interpretation of findings	A and C	KH/SH	Y	Lecture, Small group discussions, DOAP sessions	Viva voce / OSPE			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Emerging technologies in Forensic Medicine Number of competencies: (01) Number of procedures that require certification:(NIL)									
FM7.1	Enumerate the indications and describe the principles and appropriate use for: - DNA profiling Facial reconstruction - Polygraph (Lie Detector) - Narcoanalysis, - Brain Mapping, - Digital autopsy, - Virtual Autopsy, - Imaging technologies	K	K/KH	N	Lecture, Small group discussion	Written/ Viva voce			
Topic: Toxicology: General Toxicology Number of competencies: (10) Number of procedures that require certification: (NIL)									
FM8.1	Describe the history of Toxicology	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
FM8.2	Define the terms Toxicology, Forensic Toxicology, Clinical Toxicology and poison	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
FM8.3	Describe the various types of poisons, Toxicokinetics, and Toxicodynamics and diagnosis of poisoning in living and dead	K	K/KH	Y	Lecture, Small group discussion	Written/viva voce		Pharmacology	
FM8.4	Describe the Laws in relations to poisons including NDPS Act, Medico-legal aspects of poisons	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
FM8.5	Describe Medico-legal autopsy in cases of poisoning including preservation and dispatch of viscera for chemical analysis	K	K/KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE		Pharmacology	
FM8.6	Describe the general symptoms, principles of diagnosis and management of common poisons encountered in India	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, DOAP session	Written/ Viva voce/ OSCE		Pharmacology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM8.7	Describe simple Bedside clinic tests to detect poison/drug in a patient's body fluids	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM8.8	Describe basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM8.9	Describe the procedure of intimation of suspicious cases or actual cases of foul play to the police, maintenance of records, preservation and despatch of relevant samples for laboratory analysis.	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce			
FM8.10	Describe the general principles of Analytical Toxicology and give a brief description of analytical methods available for toxicological analysis: Chromatography – Thin Layer Chromatography, Gas Chromatography, Liquid Chromatography and Atomic Absorption Spectroscopy	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Toxicology : Chemical Toxicology Number of competencies: (06) Number of procedures that require certification : (NIL)									
FM9.1	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to: Caustics Inorganic – sulphuric, nitric, and hydrochloric acids; Organic- Carbolic Acid (phenol), Oxalic and acetylsalicylic acids	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM9.2	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Phosphorus, Iodine, Barium	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM9.3	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Arsenic, lead, mercury, copper, iron, cadmium and thallium	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM9.4	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Ethanol, methanol, ethylene glycol	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM9.5	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Organophosphates, Carbamates, Organochlorines, Pyrethroids, Paraquat, Aluminium and Zinc phosphide	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM9.6	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Ammonia, carbon monoxide, hydrogen cyanide & derivatives, methyl isocyanate, tear (riot control) gases	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
Topic: Toxicology : Pharmaceutical Toxicology Number of competencies: (01) Number of procedures that require certification : (NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM10.1	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to: i. Antipyretics – Paracetamol, Salicylates ii. Anti-Infectives (Common antibiotics – an overview) iii. Neuropsychotoxicology Barbiturates, benzodiazepins phenytoin, lithium, haloperidol, neuroleptics, tricyclics iv .Narcotic Analgesics, Anaesthetics, and Muscle Relaxants v. Cardiovascular Toxicology Cardiotoxic plants – oleander, odollam, aconite, digitalis vi.Gastro-Intestinal and Endocrinal Drugs – Insulin	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
Topic: Toxicology : Biotoxicology Number of competencies: (01) Number of procedures that require certification : (NIL)									
FM11.1	Describe features and management of Snake bite, scorpion sting, bee and wasp sting and spider bite	K	K/KH	Y	Lecture, Small group discussion, Autopsy	Written/ Viva voce		General Medicine	
Topic: Toxicology : Sociomedical Toxicology Number of competencies: (01) Number of procedures that require certification : (NIL)									
FM12.1	Describe features and management of abuse/poisoning with following camicals: Tobacco, cannabis, amphetamines, cocaine, hallucinogens, designer drugs & solvent	K	K/KH	Y	Lecture, Small group discussion, Autopsy	Written/ Viva voce		General Medicine	
Topic: Toxicology : Environmental Toxicology Number of competencies: (02) Number of procedures that require certification : (NIL)									
FM13.1	Describe toxic pollution of environment, its medico-legal aspects & toxic hazards of occupation and industry	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
FM13.2	Describe medico-legal aspects of poisoning in Workman's Compensation Act	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Skills in Forensic Medicine & Toxicology Number of competencies: (22) Number of procedures that require certification: (NIL)									
FM14.1	Examine and prepare Medico-legal report of an injured person with different etiologies in a simulated/ supervised environment	S	SH/P	Y	Bedside clinic (ward/ casualty), Small group discussion	Log book/ Skill station/ Viva voce / OSCE			
FM14.2	Demonstrate the correct technique of clinical examination in a suspected case of poisoning & prepare medico-legal report in a simulated/ supervised environment	S	SH	Y	Bedside clinic (ward/casualty), Small Group discussion	Log book/ Skill station/ Viva voce / OSCE		General Medicine	
FM14.3	Assist and demonstrate the proper technique in collecting, preserving and dispatch of the exhibits in a suspected case of poisoning, along with clinical examination	S	SH	Y	Bedside clinic, Small Group discussion, DOAP session	Skill lab/ Viva voce		General Medicine	
FM14.4	Conduct and prepare report of estimation of age of a person for medico-legal and other purposes & prepare medico-legal report in a simulated/ supervised environment	S	KH	Y	Small group discussion, Demonstration	Log book/ Skill station/ Viva voce / OSCE			
FM14.5	Conduct & prepare post-mortem examination report of varied etiologies (at least 15) in a simulated/ supervised environment	S	KH	Y	Small group discussion, Autopsy, DOAP session	Log book/ Skill station/ Viva voce / OSCE			
FM14.6	Demonstrate and interpret medico-legal aspects from examination of hair (human & animal) fibre, semen & other biological fluids	S	KH	Y	Small group discussion, Lecture	Log book/ Skill station/ Viva voce / OSCE			
FM14.7	Demonstrate & identify that a particular stain is blood and identify the species of its origin	S	KH	Y	Small group discussion, Lecture	Log book/Skill station/Viva voce		Pathology, Physiology	
FM14.8	Demonstrate the correct technique to perform and identify ABO & RH blood group of a person	S	SH	Y	Small group discussion, DOAP session	Log book/Skill station/Viva voce		Pathology, Physiology	
FM14.9	Demonstrate examination of & present an opinion after examination of skeletal remains in a simulated/ supervised environment	S	SH	Y	Small group discussion, DOAP session	Log book/Skill station/Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM14.10	Demonstrate ability to identify & prepare medicolegal inference from specimens obtained from various types of injuries e.g. contusion, abrasion, laceration, firearm wounds, burns, head injury and fracture of bone	S	KH	Y	Small group discussion, DOAP session	Log book/Skill station/ Viva voce/ OSPE			
FM14.11	To identify & describe weapons of medicolegal importance which are commonly used e.g. lathi, knife, kripa, axe, gada, gupta, farsha, dagger, bhalla, razor & stick. Able to prepare report of the weapons brought by police and to give opinion regarding injuries present on the person as described in injury report/ PM report so as to connect weapon with the injuries. (Prepare injury report/ PM report must be provided to connect the weapon with the injuries)	S	KH	Y	Small group discussion, DOAP session	Log book/Skill station/ Viva voce/ OSPE			
FM14.12	Describe the contents and structure of bullet and cartridges used & to provide medico-legal interpretation from these	S	KH	Y	Small group discussion, DOAP session	Log book/ Skill station/Viva voce			
FM14.13	To estimate the age of foetus by post-mortem examination	S	KH	Y	Small group discussion, DOAP session	Theory/ Clinical assessment/ Viva voce			
FM14.14	To examine & prepare report of an alleged accused in rape/unnatural sexual offence in a simulated/ supervised environment	S	KH	Y	Small group discussion, DOAP session	Log book/ Skill station/ Viva voce / OSCE			
FM14.15	To examine & prepare medico-legal report of a victim of sexual offence/unnatural sexual offence in a simulated/ supervised environment	S	KH	Y	Small group discussion, DOAP session	Log book/ Skill station/ Viva voce / OSCE			
FM14.16	To examine & prepare medico-legal report of drunk person in a simulated/ supervised environment	S	KH	Y	Small group discussion, Bed side clinic, DOAP session	Log book/ Skill station/ Viva voce / OSCE			
FM14.17	To identify & draw medico-legal inference from common poisons e.g. dhatura, castor, cannabis, opium, aconite copper sulphate, pesticides compounds, marking nut, oleander, Nux vomica, abrus seeds, Snakes, capsicum, calotropis, lead compounds & tobacco.	S	KH	Y	Small group discussion, DOAP session	Log book/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM14.18	To examine & prepare medico-legal report of a person in police, judicial custody or referred by Court of Law and violation of human rights as requirement of NHRC, who has been brought for medical examination	S	KH	Y	Small group discussion, DOAP session	Log book/ Skill station/ Viva voce / OSCE			
FM14.19	To identify & prepare medico-legal inference from histo-pathological slides of Myocardial Infarction, pneumonitis, tuberculosis, brain infarct, liver cirrhosis, brain haemorrhage, bone fracture, Pulmonary oedema, brain oedema, soot particles, diatoms & wound healing	S	KH	Y	Small group discussion, DOAP session	Log book/ Skill station/ Viva voce			
FM14.20	To record and certify dying declaration in a simulated/ supervised environment	S	KH	Y	Small group discussion, Role Play, Bed side clinic DOAP session	Log book/ Skill station/ Viva voce /OSCE			
FM14.21	To collect, preserve, seal and dispatch exhibits for DNA-Finger printing using various formats of different laboratories.	S	KH	Y	Small group discussion, Lecture	Log book/ Skill station/Viva voce			
FM14.22	To give expert medical/ medico-legal evidence in Court of law	S	KH	Y	Small group discussion, Lecture, DOAP session, role play, Court Visits	Log book/ Viva voce/OSCE			
	Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation								
Integration									
Human Anatomy									
AN14.3	Describe the importance of ossification of lower end of femur & upper end of tibia	K	KH	Y	Lecture	Viva voce/Practicals		Forensic Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Pharmacology									
PH1.22	Describe drugs of abuse (dependence, addiction, stimulants, depressants, psychedelics, drugs used for criminal offences)	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Psychiatry	Forensic Medicine
PH5.7	Demonstrate an understanding of the legal and ethical aspects of prescribing drugs	K	KH	Y	Small group discussion	short note/Viva voce			Forensic Medicine
Radiodiagnosis									
RD1.13	Describe the components of the PC & PNDT act and its medicolegal implications	K	KH	Y	Lecture, Small group discussion			Obstetrics & Gynaecology, Forensic Medicine	
Psychiatry									
PS19.3	Describe and discuss the basic legal and ethical issues in psychiatry	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine AETCOM	
General Medicine									
IM20.1	Enumerate the poisonous snakes of your area and describe the distinguishing marks of each	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine, Pharmacology	
IM20.2	Describe, demonstrate in a volunteer or a mannequin and educate (to other health care workers / patients) the correct initial management of patient with a snake bite in the field	S	SH	Y	DOAP session	Skill assessment/ Written/ Viva voce		Forensic Medicine	
IM20.3	Describe the initial approach to the stabilisation of the patient who presents with snake bite	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine	
IM20.4	Elicit and document and present an appropriate history, the circumstance, time, kind of snake, evolution of symptoms in a patient with snake bite	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Forensic Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM21.2	Enumerate the common plant poisons seen in your area and describe their toxicology, clinical features, prognosis and specific approach to detoxification	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine, Pharmacology	
IM21.3	Enumerate the common corrosives used in your area and describe their toxicology, clinical features, prognosis and approach to therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine, Pharmacology	
IM21.4	Enumerate the commonly observed drug overdose in your area and describe their toxicology, clinical features, prognosis and approach to therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine, Pharmacology	
IM21.5	Observe and describe the functions and role of a poison center in suspected poisoning	S	KH	Y	DOAP session	document in log book		Forensic Medicine, Pharmacology	
IM21.6	Describe the medico legal aspects of suspected suicidal or homicidal poisoning and demonstrate the correct procedure to write a medico legal report on a suspected poisoning	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		Forensic Medicine, Pharmacology	
IM21.7	Counsel family members of a patient with suspected poisoning about the clinical and medico legal aspects with empathy	A/C	SH	Y	DOAP session	Skill assessment		Forensic Medicine, Pharmacology	
IM21.8	Enumerate the indications for psychiatric consultation and describe the precautions to be taken in a patient with suspected suicidal ideation / gesture	K	KH	Y	DOAP session	Skill assessment		Forensic Medicine, Psychiatry	
Obstetrics & Gynaecology									
OG1.3	Define and Discuss still birth and abortion	K	KH	Y	Lecture, Small group discussions	Short notes		Forensic Medicine	
OG9.2	Describe the steps and observe/ assist in the performance of an MTP evacuation	S	SH	Y	DOAP session, Bedside clinic	Viva voce		Forensic Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OG20.1	Enumerate the indications and describe and discuss the legal aspects, indications, methods for first and second trimester MTP; complications and management of complications of medical termination of pregnancy	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Forensic Medicine	
OG20.2	In a simulated environment administer informed consent to a person wishing to undergo medical termination of pregnancy	S/A/C	SH	Y	DOAP session	Skill assessment		Forensic Medicine	
OG20.3	Discuss Pre-conception and Pre Natal Diagnostic Techniques (PC& PNDT) Act 1994 & its amendments	K	K/KH	Y	Lecture, Small group discussions	Written/ Viva voce		Forensic Medicine	
General Surgery									
SU8.1	Describe the principles of Ethics as it pertains to surgery	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ skill assessment		Forensic Medicine, AETCOM	
SU8.2	Demonstrate Professionalism and empathy to the patient undergoing surgery	A/C	SH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		Forensic Medicine, AETCOM	
SU8.3	Discuss Medico legal issues in surgical practice	A/C	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ skill assessment		Forensic Medicine, AETCOM	

List of contributing subject Experts

1. Human Anatomy

- Dr. Praveen R Singh, Professor & Head, Department of Anatomy, Pramukhswami Medical College, Karamsad, Gujarat
- Dr. Nachiket Shankar, Associate Professor, Department of Anatomy, St. John's Medical College & Hospital, Bangalore

2. Physiology

- Dr. Mario Vaz, Professor, Department of Physiology, St. John's Medical College & Hospital, Bangalore
- Dr. Jayashree Sengupta, Former Professor & Head, Department of Physiology, All India Institute of Medical Sciences, New Delhi.
- Dr Hasmukh D Shah, Professor & Head, Department of Physiology, Pramukhswami Medical College, Karamsad, Gujarat

3. Biochemistry

- Dr. Nibhriti Das, Professor, Department of Biochemistry, All India Institute of Medical Sciences, New Delhi
- Dr. S. P. Singh, Professor, Department of Biochemistry, Maharani Laxmi Bai Medical College, Jhansi, Uttar Pradesh
- Dr. Hitesh N Shah, Professor & Head, Department of Biochemistry, Pramukhswami Medical College, Karamsad, Gujarat

4. Pharmacology

- Dr. S. K. Maulik, Professor, Department of Pharmacology, All India Institute of Medical Sciences, New Delhi
- Dr. Vandana Roy, Professor, Department of Pharmacology, Maulana Azad Medical College, New Delhi

5. Pathology

- Dr. S. Datta Gupta, Professor, Department of Pathology, All India Institute of Medical Sciences, New Delhi
- Dr. Uma Chaturvedi, Professor, C-1303, Freedom Park Life, Sector- 57, Gurugram

6. Microbiology

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MEDICAL COUNCIL OF INDIA

COMPETENCY BASED UNDERGRADUATE CURRICULUM FOR THE INDIAN MEDICAL GRADUATE



VOLUME-II (2018)

**COMPETENCY BASED UNDERGRADUATE CURRICULUM
FOR THE
INDIAN MEDICAL GRADUATE
2018**



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भारतीय आयुर्विज्ञान परिषद के अधिक्रमण में शासी बोर्ड

BOARD OF GOVERNORS IN SUPERSESSION OF MEDICAL COUNCIL OF INDIA

FOREWORD

The Medical Council of India, aware of its responsibilities in creation of trained health manpower, has been engaged for the past few years in updating the medical curriculum for undergraduates and postgraduates to be in consonance with the changing health needs of the country. The task of updating and reorganization of the postgraduate curriculum in nearly 50 broad specialty disciplines to the competency pattern was accomplished by the Academic Cell of the Council with the help of subject experts and members of its Reconciliation Board and have been uploaded on the Council Website for use of the medical fraternity.

The Council visualized that the Indian Medical Graduate, at the end of the undergraduate training program, should be able to recognize "health for all" as a national goal and should be able to fulfill his/her societal obligations towards the realization of this goal. To fulfill the mandate of the undergraduate medical curriculum which is to produce a clinician, who understands and is able to provide preventive, promotive, curative, palliative and holistic care to his patients, the curriculum must enunciate clearly the competencies the student must be imparted and must have learnt, with clearly defined teaching-learning strategies and effective methods of assessment. The student should be trained to effectively communicate with patients and their relatives in a manner respectful of the patient's preferences, values, beliefs, confidentiality and privacy and to this purpose, a book on Attitude, Ethics & Communication was prepared by the Medical Council of India; the teaching faculty of medical colleges have been receiving training on this module since 2015.

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-2-

Competency based Medical Education provides an effective outcome-based strategy where various domains of teaching including teaching learning methods and assessment form the framework of competencies. Keeping this objective as the core ingredient, the Medical Council of India with the help of panel of experts drawn from across the country, laid the basic framework for the revised undergraduate medical curriculum. Over the past four years, a group of highly committed medical professionals working as Members of the MCI Reconciliation Board developed this information into a document incorporating appropriate teaching-learning strategies, tools and techniques of teaching, and modes of assessment which have culminated in the current competency based undergraduate curriculum. We understand that maximum efforts were made to encourage integrated teaching between traditional subject areas using a problem-based learning approach starting with clinical or community cases and exploring the relevance of various preclinical disciplines in both the understanding and resolution of the problem. All efforts have been made to de-emphasize compartmentalisation of disciplines so as to achieve both horizontal and vertical integration in different phases. We are proud of their work accomplishment and congratulate them in the onerous task accomplished.

It gives us great satisfaction to state that the '**competency based undergraduate curriculum**' that has been prepared by the Medical Council of India would definitely serve the cause of medical education and in creating a competent Indian Medical Graduate to serve the community.

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Contents Vol. I

Sl. No.	Subject	Legend	Page No.
(i)	Preamble		11
(ii)	How to use the Manual		14
(iii)	Definitions used in the Manual		37
	Competency based Undergraduate Curriculum in Pre-clinical and Para-clinical subjects		
1.	Human Anatomy	AN	41
2.	Physiology	PY	92
3.	Biochemistry	BI	119
4.	Pharmacology	PH	136
5.	Pathology	PA	160
6.	Microbiology	MI	205
7.	Forensic Medicine & Toxicology	FM	228
(iv)	List of contributing subject experts		252

Contents Vol. II

Sl. No.	Subject	Legend	Page No.
(i)	Preamble		11
(ii)	How to use the Manual		14
(iii)	Definitions used in the Manual		37
	Competency based Undergraduate Curriculum in Medicine and Allied subjects		
1.	Community Medicine	CM	41
2.	General Medicine	IM	60
3.	Respiratory Medicine	CT	143
4.	Pediatrics	PE	150
5.	Psychiatry	PS	203
6.	Dermatology, Venereology & Leprosy	DR	219
7.	Physical Medicine & Rehabilitation	PM	229
(iv)	List of contributing subject experts		235

Contents Vol. III

Sl. No.	Subject	Legend	Page No.
(i)	Preamble		11
(ii)	How to use the Manual		14
(iii)	Definitions used in the Manual		37
	Competency based Undergraduate Curriculum in Surgery and Allied subjects		
1.	General Surgery	SU	41
2.	Ophthalmology	OP	79
3.	Otorhinolaryngology	EN	89
4.	Obstetrics & Gynaecology	OG	102
5.	Orthopedics	OR	130
6.	Anesthesiology	AS	145
7.	Radiodiagnosis	RD	154
8.	Radiotherapy	RT	160
9.	Dentistry	DE	163
(iv)	List of contributing subject experts		166

COMPETENCY BASED UNDERGRADUATE CURRICULUM FOR THE INDIAN MEDICAL GRADUATE

Preamble

The new Graduate Medical Education Regulations attempts to stand on the shoulder of the contributions and the efforts of resource persons, teachers and students (past and present). It intends to take the learner to provide health care to the evolving needs of the nation and the world.

More than twenty years have passed since the existing Regulations on Graduate Medical Education, 1997 was notified, necessitating a relook at all aspects of the various components in the existing regulations and adapt them to the changing demography, socio-economic context, perceptions, values and expectations of stakeholders. Emerging health care issues particularly in the context of emerging diseases, impact of advances in science and technology and shorter distances on diseases and their management also need consideration. The strong and forward looking fundamentals enshrined in the Regulations on Graduate Medical Education, 1997 has made this job easier. A comparison between the 1997 Regulations and proposed Graduate Medical Education Regulations, 2018 will reveal that the 2018 Regulations have evolved from several key principles enshrined in the 1997 Regulations.

The thrust in the new regulations is continuation and evolution of thought in medical education making it more learner-centric, patient-centric, gender-sensitive, outcome -oriented and environment appropriate. The result is an outcome driven curriculum which conforms to global trends. Emphasis is made on alignment and integration of subjects both horizontally and vertically while respecting the strengths and necessity of subject-based instruction and assessment. This has necessitated a deviation from using “broad competencies”; instead, the reports have written end of phase subject (sub) competencies. These “sub-competencies” can be mapped to the global competencies in the Graduate Medical Education Regulations.

A significant attempt has been made in the outcome driven undergraduate curriculum to provide the orientation and the skills necessary for life-long learning to enable proper care of the patient. In particular, the curriculum provides for early clinical exposure, electives and longitudinal care. Skill acquisition is an indispensable component of the learning process in medicine. The curriculum reinforces this aspect by necessitating certification of certain essential skills. The experts and the writing group have factored in patient availability, access, consent, number of students in a class etc. in suggesting skill acquisition and assessment methods; use of skills labs, simulated and guided environments are encouraged. In the pre-internship years,- the highest level of skill acquisition is a show how (SH) in a simulated or guided environment; few skills require independent performance and certification - these are marked with P (for performance). Opportunity to ‘perform’ these skills will be available during internship.

The importance of ethical values, responsiveness to the needs of the patient and acquisition of communication skills is underscored by providing dedicated curriculum time in the form of a longitudinal program based on Attitude, Ethics and Communication (AETCOM) competencies. Great emphasis has been placed on collaborative and inter-disciplinary teamwork, professionalism, altruism and respect in professional relationships with due sensitivity to differences in thought, social and economic position and gender.

In addition to the above, an attempt has been made to allow students from diverse educational streams and backgrounds to transition appropriately through a Foundation Course. Dedicated time has been allotted for self directed learning and co-curricular activities.

Formative and internal assessments have been streamlined to achieve the objectives of the curriculum. Minor tweaks to the summative assessment have been made to reflect evolving thought and regulatory requirements. Curricular governance and support have been strengthened, increasing the involvement of Curriculum Committee and Medical Education Departments/Units.

The curriculum document in conjunction with the new Graduate Medical Education Regulations (GMR), when notified, must be seen as a “living document” that should evolve as stakeholder requirements and aspirations change. We hope that the current GMR does just that. The Medical Council of India is

grateful to all the teachers, subject experts, process experts, patients, students and trainees who have contributed through invaluable inputs, intellectual feedbacks and valuable time spent to make this possible. This document would not have been possible without the dedicated and unstinting intellectual, mental and time-consuming efforts of the members of the Reconciliation Board of the Council and the Academic Cell of MCI.

How to use the Manual

This Manual is intended for curriculum planners in an institution to design learning and assessment experiences for the MBBS student. Contents created by subject experts have been curated to provide guidance for the curriculum planners, leaders and teachers in medical schools. They must be used with reference to and in the context of the Regulations.

Section 1

Competencies for the Indian Medical Graduate

Section 1 - provides the global competencies extracted from the Graduate Medical Education Regulations, 2018. The global competencies identified as defining the roles of the **Indian Medical Graduate** are the broad competencies that the learner has to aspire to achieve; teachers and curriculum planners must ensure that the learning experiences are aligned to this Manual.

Extract from the Graduate Medical Education Regulations, 2018

2. Objectives of the Indian Graduate Medical Training Programme

The undergraduate medical education program is designed with a goal to create an “Indian Medical Graduate” (IMG) possessing requisite knowledge, skills, attitudes, values and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being globally relevant. To achieve this, the following national and institutional goals for the learner of the Indian Medical Graduate training program are hereby prescribed:-

2.1. National Goals

At the end of undergraduate program, the Indian Medical Graduate should be able to:

- (a) recognize “health for all” as a national goal and health right of all citizens and by undergoing training for medical profession fulfill his/her social obligations towards realization of this goal.
- (b) learn every aspect of National policies on health and devote herself/himself to its practical implementation.
- (c) achieve competence in practice of holistic medicine, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases.
- (d) develop scientific temper, acquire educational experience for proficiency in profession and promote healthy living.
- (e) become exemplary citizen by observance of medical ethics and fulfilling social and professional obligations, so as to respond to national aspirations.

2.2. Institutional Goals

In consonance with the national goals, each medical institution should evolve institutional goals to define the kind of trained manpower (or professionals) they intend to produce. The Indian Medical Graduates coming out of a medical institute should:

- (a) be competent in diagnosis and management of common health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.
- (b) be competent to practice preventive, promotive, curative and rehabilitative medicine in respect to the commonly encountered health problems.
- (c) appreciate rationale for different therapeutic modalities, be familiar with the administration of the "essential drugs" and their common side effects.
- (d) be able to appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.

- (e) possess the attitude for continued self learning and to seek further expertise or to pursue research in any chosen area of medicine, action research and documentation skills.
- (f) be familiar with the basic factors which are essential for the implementation of the National Health Programs including practical aspects of the following:
 - (i) Family Welfare and Maternal and Child Health (MCH);
 - (ii) Sanitation and water supply;
 - (iii) Prevention and control of communicable and non-communicable diseases;
 - (iv) Immunization;
 - (v) Health Education;
 - (vi) Indian Public Health Standards (IPHS) at various level of service delivery;
 - (vii) Bio-medical waste disposal; and
 - (viii) Organizational and or institutional arrangements.
- (g) acquire basic management skills in the area of human resources, materials and resource management related to health care delivery, General and hospital management, principal inventory skills and counseling.
- (h) be able to identify community health problems and learn to work to resolve these by designing, instituting corrective steps and evaluating outcome of such measures.
- (i) be able to work as a leading partner in health care teams and acquire proficiency in communication skills.
- (j) be competent to work in a variety of health care settings.
- (k) have personal characteristics and attitudes required for professional life including personal integrity, sense of responsibility and dependability and ability to relate to or show concern for other individuals.

All efforts must be made to equip the medical graduate to acquire the skills as detailed in Table 11 Certifiable procedural skills – A Comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) – Indian Medical Graduate, as given in the Graduate Medical Education Regulations, 2018

2.3. Goals for the Learner

In order to fulfil this goal, the Indian Medical Graduate must be able to function in the following roles appropriately and effectively:-

- 2.3.1. Clinician who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.
- 2.3.2. Leader and member of the health care team and system with capabilities to collect, analyze, synthesize and communicate health data appropriately.
- 2.3.3. Communicator with patients, families, colleagues and community.
- 2.3.4. Lifelong learner committed to continuous improvement of skills and knowledge.
- 2.3.5. Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community and profession.

3. Competency Based Training Programme of the Indian Medical Graduate

Competency based learning would include designing and implementing medical education curriculum that focuses on the desired and observable ability in real life situations. In order to effectively fulfil the roles as listed in clause 2, the Indian Medical Graduate would have obtained the following set of competencies at the time of graduation:

3.1. *Clinician, who understands and provides preventive, promotive, curative, palliative and holistic care with compassion*

- 3.1.1 Demonstrate knowledge of normal human structure, function and development from a molecular, cellular, biologic, clinical, behavioral and social perspective.
- 3.1.2. Demonstrate knowledge of abnormal human structure, function and development from a molecular, cellular, biological, clinical, behavioural and social perspective.
- 3.1.3 Demonstrate knowledge of medico-legal, societal, ethical and humanitarian principles that influence health care.

- 3.1.4 Demonstrate knowledge of national and regional health care policies including the National Health Mission that incorporates National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), frameworks, economics and systems that influence health promotion, health care delivery, disease prevention, effectiveness, responsiveness, quality and patient safety.
- 3.1.5. Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is complete and relevant to disease identification, disease prevention and health promotion.
- 3.1.6. Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is contextual to gender, age, vulnerability, social and economic status, patient preferences, beliefs and values.
- 3.1.7 Demonstrate ability to perform a physical examination that is complete and relevant to disease identification, disease prevention and health promotion.
- 3.1.8 Demonstrate ability to perform a physical examination that is contextual to gender, social and economic status, patient preferences and values.
- 3.1.9 Demonstrate effective clinical problem solving, judgment and ability to interpret and integrate available data in order to address patient problems, generate differential diagnoses and develop individualized management plans that include preventive, promotive and therapeutic goals.
- 3.1.10 Maintain accurate, clear and appropriate record of the patient in conformation with legal and administrative frameworks.
- 3.1.11 Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context.
- 3.1.12 Demonstrate ability to prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy and interventions based on the principles of rational drug therapy, scientific validity, evidence and cost that conform to established national and regional health programmes and policies for the following:
 - i) Disease prevention,
 - ii) Health promotion and cure,
 - iii) Pain and distress alleviation, and
 - iv) Rehabilitation and palliation.

- 3.1.13 Demonstrate ability to provide a continuum of care at the primary and/or secondary level that addresses chronicity, mental and physical disability.
- 3.1.14 Demonstrate ability to appropriately identify and refer patients who may require specialized or advanced tertiary care.
- 3.1.15 Demonstrate familiarity with basic, clinical and translational research as it applies to the care of the patient.

3.2. *Leader and member of the health care team and system*

- 3.2.1 Work effectively and appropriately with colleagues in an inter-professional health care team respecting diversity of roles, responsibilities and competencies of other professionals.
- 3.2.2 Recognize and function effectively, responsibly and appropriately as a health care team leader in primary and secondary health care settings.
- 3.2.3 Educate and motivate other members of the team and work in a collaborative and collegial fashion that will help maximize the health care delivery potential of the team.
- 3.2.4 Access and utilize components of the health care system and health delivery in a manner that is appropriate, cost effective, fair and in compliance with the national health care priorities and policies, as well as be able to collect, analyze and utilize health data.
- 3.2.5 Participate appropriately and effectively in measures that will advance quality of health care and patient safety within the health care system.
- 3.2.6 Recognize and advocate health promotion, disease prevention and health care quality improvement through prevention and early recognition: in a) life style diseases and b) cancer, in collaboration with other members of the health care team.

3.3. *Communicator with patients, families, colleagues and community*

- 3.3.1 Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients in a language that the patient understands and in a manner that will improve patient satisfaction and health care outcomes.
- 3.3.2 Demonstrate ability to establish professional relationships with patients and families that are positive, understanding, humane, ethical, empathetic, and trustworthy.
- 3.3.3 Demonstrate ability to communicate with patients in a manner respectful of patient's preferences, values, prior experience, beliefs, confidentiality and privacy.

3.3.4 Demonstrate ability to communicate with patients, colleagues and families in a manner that encourages participation and shared decision-making.

3.4. Lifelong learner committed to continuous improvement of skills and knowledge

3.4.1. Demonstrate ability to perform an objective self-assessment of knowledge and skills, continue learning, refine existing skills and acquire new skills.

3.4.2. Demonstrate ability to apply newly gained knowledge or skills to the care of the patient.

3.4.3. Demonstrate ability to introspect and utilize experiences, to enhance personal and professional growth and learning.

3.4.4. Demonstrate ability to search (including through electronic means), and critically reevaluate the medical literature and apply the information in the care of the patient.

3.4.5. Be able to identify and select an appropriate career pathway that is professionally rewarding and personally fulfilling.

3.5. *Professional who is committed to excellence, is ethical, responsive and accountable to patients, community and the profession*

3.5.1. Practice selflessness, integrity, responsibility, accountability and respect.

3.5.2. Respect and maintain professional boundaries between patients, colleagues and society.

3.5.3. Demonstrate ability to recognize and manage ethical and professional conflicts.

3.5.4. Abide by prescribed ethical and legal codes of conduct and practice.

3.5.5. Demonstrate a commitment to the growth of the medical profession as a whole.

Section 2

Subject-wise outcomes

Section 2 contains subject-wise outcomes so called “sub-competencies” that must be achieved at the end of instruction in that subject. These are organised in tables and have two parts. The core subject outcomes are in first part. The second part in the same document (titled Integration) contains outcomes/competencies in other subjects which have been identified by experts in those subjects as requiring alignment or integration with the core subject.

Outcomes (competencies) in each subject are grouped according to topics number-wise. It is important to review the individual outcomes (competencies) in the light of the topic outcomes as a whole. For each competency outlined - the learning domains (Knowledge, Skill, Attitude, Communication) are identified. The expected level of achievement in that subject is identified as – [knows (K), knows how (KH), shows how (SH), perform (P)]. As a rule, ‘perform’ indicates independent performance without supervision and is required rarely in the pre-internship period. The outcome is a core (Y - must achieve) or a non-core (N - desirable) outcome. Suggested learning and assessment methods (these are suggestions) and explanation of the terms used are given under the section “definitions used in this document”. The suggested number of times a skill must be performed independently for certification in the learner’s log book is also given. Last two columns indicate subjects within the same phase and other phases with which the topic can be taught - together - aligned (temporal coordination), shared, correlated or nested.

The number of topics and competencies in each subject are given below:

Topics & outcomes in Pre-clinical & Para-clinical subjects

Sr. No.	Subjects	Number of topics	Number of outcomes
1.	Human Anatomy	82	409
2.	Physiology	11	137
3.	Biochemistry	11	89
4.	Pharmacology	05	85
5.	Pathology	36	182
6.	Microbiology	08	54
7.	Forensic Medicine & Toxicology	14	162
	Total	167	1118

Topics & outcomes in Medicine and Allied subjects

Sr. No.	Subjects	Number of topics	Number of outcomes
1.	Community Medicine	20	107
2.	General Medicine	26	506
3.	Respiratory Medicine	02	47
4.	Pediatrics	35	406
5.	Psychiatry	19	117
6.	Dermatology, Venereology & Leprosy	18	73
7.	Physical Medicine & Rehabilitation	09	43
	Total	129	1299

Topics & outcomes in Surgery and Allied subjects

Sr. No.	Subjects	Number of topics	Number of outcomes
1.	General Surgery	30	133
2.	Ophthalmology	09	60
3.	Otorhinolaryngology	04	76
4.	Obstetrics & Gynaecology	38	126
5.	Orthopedics	14	39
6.	Anesthesiology	10	46
7.	Radiodiagnosis	01	13
8.	Radiotherapy	05	16
9.	Dentistry	05	23
	Total	116	532

Section 3

Sample topics used for alignment & integration

Section 3 contains a sample selection of topics that run across the phases which can be used for alignment and integration. These are suggestions and institutions can select their own set of topics which can run across phases.

It is important to design the curriculum with a view to ensure with several broad outcomes in mind: a) achievement of the broad competencies by the learner at the end of the MBBS program, b) retain the subject - wise character of learning and assessment and ensure that phase-wise subject outcomes are met and assessed, c) teaching topics that are similar together thereby reducing redundancy and allowing the learner to integrate the concept as the most important step in integration (alignment or temporal coordination) (see document on integration), and d) align learning and assessment experiences to the outcome and the level of achievement specified.

Understanding the competencies table

Understanding the competencies table

A	B	C	D	E	F	G	H	I	J
No.	Competencies	Domain	K/KH/SH/P	Core	Suggested Teaching Learning Method	Suggested Assessment method	No. required to certify (P)	Vertical Integration	Horizontal Integration
Physiology									
Summary Name of Topic: General Physiology Number of Competencies: (08)									
PY1.1	Describe the structure and functions of a	K	KH	Y	Lectures, Small group discussion	Written/Viva			Biochemistry
IM15.4	Elicit <i>document</i> and present a medical history that helps delineate the	S	SH	Y	Bed Side clinic, DOAP	Skill assessment		Community Medicine	

Unique number of the competency. First two alphabets represent the subject (see list); number following alphabet reflects topic number, following period is a running number.

Description of competency

Identifies the domain or domains addressed
 K - Knowledge
 S - Skill
 A - Attitude
 C - Communication

Identifies the level of competency required based on the Miller's pyramid
 K - Knows
 KH - Knows How
 S - Skill
 SH - Show How
 P - Perform independently

Identifies if the competency is core or desirable.
 Y indicates Core;
 N-non-core

Identifies the suggested learning method.
 DOAP - Demonstrate (by Student) Observe, Assist Perform)

Identifies the suggested assessment method
 Skill assessment - Clinics, Skills lab, Practicals etc.

no of times a skill needs to be done independently to be certified for independent performance;
 Rarely used in UG

Subject (s) in other phases with which the competency can be vertically integrated to increase relevance or improve basic understanding

Subject (s) in the same phase with which the competency can be horizontally integrated or aligned to allow a more wholesome understanding

***Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents**

Deriving learning objectives from competencies

Deriving learning objectives from competencies

K	Knows	A knowledge attribute – Usually enumerates or describes
KH	Knows how	A higher level of knowledge – is able to discuss or analyse
S	Shows	A skill attribute: is able to identify or demonstrate the steps
SH	Shows how	A skill attribute: is able to interpret / demonstrate a complex procedure requiring thought, knowledge and behaviour
P	Performs (under supervision or independently)	Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

PA42.3*	Identify the etiology of meningitis based on given CSF parameters	K/S	SH	Y
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PA42.1*	At the end of the session the phase II student must be able to enumerate the most common causes of meningitis correctly
PA42.2*	At the end of the session the phase II student must be able to enumerate the components of CSF analysis correctly
PA42.3*	At the end of the session the phase II student must be able to describe the CSF features for a given etiology of meningitis accurately
PA42.4*	At the end of the session the phase II student must be able to identify the aetiology of meningitis correctly from a given set of CSF parameters

Audience - who will do the behavior

Behavior - What should the learner be able to do?

Condition - Under what conditions should the learner be able to do it?

Degree – How well must it be done

Objective: Statement of what a learner should be able to do at the end of a specific learning experience
***Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents**

Deriving learning methods from competencies

Deriving learning methods from competencies

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

PA42.3*	Identify the etiology of meningitis based on given CSF parameters	K/S	SH	Y
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Objective: Statement of what a learner should be able to do at the end of a specific learning experience

PA42.1*	At the end of the session the Phase II student must be able to enumerate the most common causes of meningitis correctly	Lecture	small group discussion
PA42.2*	At the end of the session the Phase II student must be able to enumerate the components of a CSF analysis correctly	Related objectives can be combined into one teaching session	
PA42.3*	At the end of the session the Phase II student must be able to describe the CSF features for a given etiologic of meningitis accurately		
PA42.4*	At the end of the session the Phase II student must the able to identify the aetiology of meningitis correctly from a given set of CSF parameters	small group discussion, practical session	

*Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents

Deriving assessment methods from competencies

Deriving assessment methods from competencies-1

Competency: An observable ability of a health professional, integrating multiple components such as knowledge, skills, values and attitudes.

PA42.3*	Identify the etiology of meningitis based on given CSF parameters	K/S	SH	Y
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Objective: Statement of what a learner should be able to do at the end of a specific learning experience

PA42.1*	At the end of the session the Phase II student must be able to enumerate the most common causes of meningitis correctly	Short note or part of structured essay: Enumerate 5 causes of meningitis based on their prevalence in India
PA42.2*	At the end of the session the Phase II student must be able to enumerate the components of a CSF analysis correctly	Short note or part of structured essay: Enumerate the components tested in a CSF analysis
PA42.3*	At the end of the session the Phase II student must be able to describe the CSF features for a given aetiology of meningitis accurately	Short note or part of structured essay: Describe the CSF findings that are characteristic of tuberculous meningitis
PA42.4*	At the end of the session the Phase II student must the able to identify the aetiology of meningitis correctly from a given set of CSF parameters	Short note / part of the structured essay/ Skill station/ Viva voce Review the CSF findings in the following patient and identify (write or vocalise) the most likely etiology

* Numbers given are for illustrative purposes only and should not be compared with numbers in the curriculum document

Deriving assessment methods from competencies-2

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

MI2.4*	List the common microbial agents causing anemia. Describe the morphology, mode of infection and discuss the pathogenesis, clinical course, diagnosis and prevention and treatment of the common microbial agents causing Anemia.	K	KH	Y	Didactic Small group discussion	Written/ Viva voce	Medicine	Pathology
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Objective: Statement of what a learner should be able to do at the end of a specific learning experience

MI2.1*	Enumerate the common microbial agents causing anaemia
MI2.2*	Describe the morphology of agent (1,2 etc)
MI2.3*	Describe the mode of infection of agent in humans
MI2.4*	Discuss the pathogenesis of anemia caused by agent
MI2.5*	Describe the clinical course of infection by agent
MI2.6*	Enumerate the diagnostic tests to identify the aetiology of agent as a cause of anemia
MI2.7*	Discuss the methods to prevent infection by agent
MI2.8*	Describe the treatment of infection by agent

Integrate concept - not necessarily teachers
Plan session with teachers of both subjects -teachers from both subjects usually not needed. Ensure redundancy and duplication by reviewing both subjects



Horizontally aligned and integrated with pathology

Vertically integrated with General Medicine



Integrate concept - not necessarily teachers Plan session with teachers from both phases. Make a decision on how much of the information needs to be brought down to this phase to make it relevant. Consider how a competency can ascend over phases: for eg. - can be at a KH -(know how) in phase II but becomes SH in phase III. For vertical integration with clinical subjects, use of a case to link the concept (a well written paper, case is sufficient). Using teachers from both phases is rarely required

The concept of integration

Concept of integration used in the Manual

Integration is a learning experience that allows the learner to perceive relationships from blocks of knowledge and develop a unified view of its basis and its application. The GMR 2018 applies these principles to the extent that will retain the strengths of silo - based education and assessment while providing experiences that will allow learners to integrate concepts.

Keeping this in mind, the Regulations recommend temporal coordination as described by Harden (called alignment in this document) as the major method to be followed allowing similar topics in different subjects to be thought separately but during the same time frame (Figure 1a).

In a small proportion - not to exceed 20% of the total curriculum an attempt can be made to Share (Figure 1b) topics or Correlate (Figure 1c) topics by using an integration session. The integration session most preferred will be a case based discussion in an appropriate format ensuring that elements in the same phase (horizontal) and from other phases are addressed. Care must be taken to ensure that achievement phase - based objectives are given primacy - the integrative elements from other phases are used only to provide adequate recall and understand the clinical application of concepts. It must be emphasized that integration does not necessarily require multiple teachers in each class. Experts from each phase and subject may be involved in the lesson planning but not it in its delivery unless deemed necessary.

As much as possible the necessary correlates from other phases must also be introduced while discussing a topic in a given subject - Nesting (Figure 1d) (Harden). Topics that cannot be aligned and integrated must be provided adequate time in the curriculum throughout the year.

Assessment will continue to be subject based. However, efforts must be made to ensure that phase appropriate correlates are tested to determine if the learner has internalized and integrated the concept and its application.

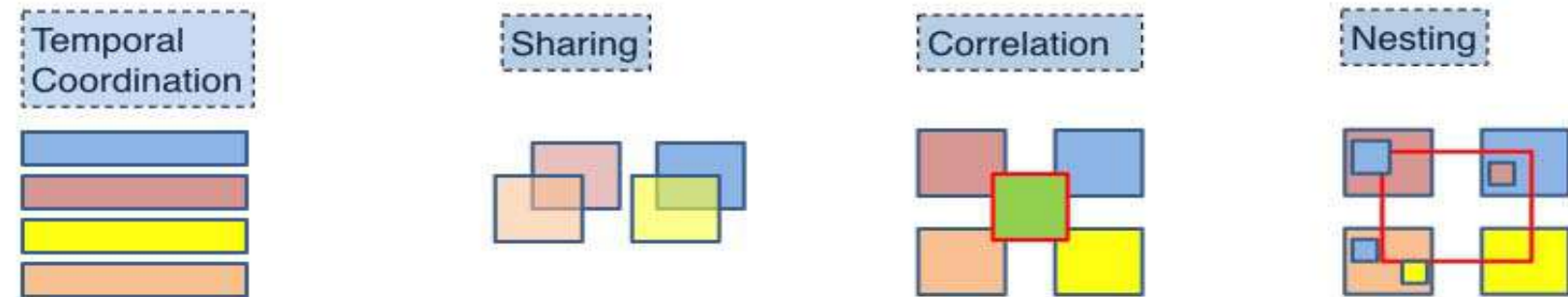


Figure 1 : Integration concepts framed in the GMR. Coloured boxes represent subjects. 1 a. Temporal coordination: The timetable is adjusted so that topics within the subjects or disciplines which are related, are scheduled at the same time. b. Sharing: Two disciplines may agree to plan and jointly implement a teaching program c. Correlation: the emphasis remains on disciplines or subjects with subject-based courses taking up most of the curriculum time. Within this framework, an integrated teaching session or course is introduced in addition to the subject-based teaching (green box with red border) d. Nesting: the teacher targets, within a subject-based course, skills relating to other subjects. Adapted from Harden R Med Edu 2000. 34; 551

Definitions used in the Manual

- 1. Goal:** A projected state of affairs that a person or system plans to achieve.
In other words: Where do you want to go? or What do you want to become?
- 2. Competency:** The habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served.
In other words: What should you have? or What should have changed?
- 3. Objective:** Statement of what a learner should be able to do at the end of a specific learning experience.
In other words: What the Indian Medical Graduate should know, do, or behave.

Action Verbs used in this manual

Knowledge	Skill	Attitude/communicate
Enumerate	Identify	Counsel
List	Demonstrate	Inform
Describe	Perform under supervision	Demonstrate understanding of
Discuss	Perform independently	
Differentiate	Document	
Define	Present	
Classify	Record	
Choose	Interpret	
Elicit		
Report		

Note:

1. Specified essential competencies only will be required to be performed independently at the end of the final year MBBS.
2. The word ‘perform’ or ‘do’ is used ONLY if the task has to be done on patients or in laboratory practical in the pre/para- clinical phases.
3. Most tasks that require performance during undergraduate years will be performed under supervision.
4. If a certification to perform independently has been done, then the number of times the task has to be performed under supervision will be indicated in the last column.

Explanation of terms used in this manual

Lecture	Any instructional large group method including traditional lecture and interactive lecture
Small group discussion	Any instructional method involving small groups of students in an appropriate learning context
DOAP (Demonstration- Observation - Assistance - Performance)	A practical session that allows the student to observe a demonstration, assist the performer, perform in a simulated environment, perform under supervision or perform independently
Skill assessment	A session that assesses the skill of the student including those in the practical laboratory, skills lab, skills station that uses mannequins/ paper case/simulated patients/real patients as the context demands
Core	A competency that is necessary in order to complete the requirements of the subject (traditional must know)
Non-Core	A competency that is optional in order to complete the requirements of the subject (traditional nice (good) to know/ desirable to know)
National Guidelines	Health programs as relevant to the competency that are part of the National Health Program

Domains of learning

K	Knowledge
S	Skill
A	Attitude
C	Communication

Levels of competency

K	Knows	A knowledge attribute - Usually enumerates or describes
KH	Knows how	A higher level of knowledge - is able to discuss or analyze
S	Shows	A skill attribute: is able to identify or demonstrate the steps
SH	Shows how	A skill attribute: is able to interpret/ demonstrate a complex procedure requiring thought, knowledge and behavior
P	Performs (under supervision or independently)	Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results

Note:

In the table of competency - the highest level of competency acquired is specified and implies that the lower levels have been acquired already. Therefore, when a student is able to SH - Show how - an informed consent is obtained - it is presumed that the preceding steps - the knowledge, the analytical skills, the skill of communicating have all been obtained.

It may also be noted that attainment of the highest level of competency may be obtained through steps spread over several subjects or phases and not necessarily in the subject or the phase in which the competency has been identified.

Volume II

Competency based Undergraduate Curriculum

in

Medicine and Allied subjects

COMMUNITY MEDICINE (CODE: CM)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
COMMUNITY MEDICINE									
Topic: Concept of Health and Disease Number of competencies: (10) Number of procedures that require certification:(NIL)									
CM1.1	Define and describe the concept of Public Health	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM1.2	Define health; describe the concept of holistic health including concept of spiritual health and the relativeness & determinants of health	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM1.3	Describe the characteristics of agent, host and environmental factors in health and disease and the multi factorial etiology of disease	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM1.4	Describe and discuss the natural history of disease	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM1.5	Describe the application of interventions at various levels of prevention	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM1.6	Describe and discuss the concepts, the principles of Health promotion and Education, IEC and Behavioral change communication (BCC)	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM1.7	Enumerate and describe health indicators	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM1.8	Describe the Demographic profile of India and discuss its impact on health	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM1.9	Demonstrate the role of effective Communication skills in health in a simulated environment	S	SH	Y	DOAP sessions	Skill Assessment		AETCOM	
CM1.10	Demonstrate the important aspects of the doctor patient relationship in a simulated environment	S	SH	Y	DOAP sessions	Skill Assessment		AETCOM	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Relationship of social and behavioural to health and disease Number of competencies: (5) Number of procedures that require certification: (NIL)									
CM2.1	Describe the steps and perform clinico socio-cultural and demographic assessment of the individual, family and community	S	SH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce/ Skill assessment			
CM2.2	Describe the socio-cultural factors, family (types), its role in health and disease & demonstrate in a simulated environment the correct assessment of socio-economic status	S	SH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce/ Skill assessment			
CM2.3	Describe and demonstrate in a simulated environment the assessment of barriers to good health and health seeking behavior	S	SH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce/ Skill assessment			
CM2.4	Describe social psychology, community behaviour and community relationship and their impact on health and disease	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM2.5	Describe poverty and social security measures and its relationship to health and disease	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
Topic: Environmental Health Problems Number of competencies: (8) Number of procedures that require certification: (NIL)									
CM3.1	Describe the health hazards of air, water, noise, radiation and pollution	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine, ENT	
CM3.2	Describe concepts of safe and wholesome water, sanitary sources of water, water purification processes, water quality standards, concepts of water conservation and rainwater harvesting	K	KH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce			
CM3.3	Describe the aetiology and basis of water borne diseases /jaundice/hepatitis/ diarrheal diseases	K	KH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce		Microbiology, General Medicine, Pediatrics	
CM3.4	Describe the concept of solid waste, human excreta and sewage disposal	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
CM3.5	Describe the standards of housing and the effect of housing on health	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM3.6	Describe the role of vectors in the causation of diseases. Also discuss National Vector Borne disease Control Program	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Microbiology	
CM3.7	Identify and describe the identifying features and life cycles of vectors of Public Health importance and their control measures	S	SH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce/ Skill assessment		Microbiology	
CM3.8	Describe the mode of action, application cycle of commonly used insecticides and rodenticides	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Pharmacology	
Topic: Principles of health promotion and education Number of competencies: (3) Number of procedures that require certification: (NIL)									
CM4.1	Describe various methods of health education with their advantages and limitations	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM4.2	Describe the methods of organizing health promotion and education and counselling activities at individual family and community settings	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM4.3	Demonstrate and describe the steps in evaluation of health promotion and education program	S	SH	Y	Small group session, DOAP session	Written / Viva voce/ Skill assessment			
Topic: Nutrition Number of competencies: (08) Number of procedures that require certification: (NIL)									
CM5.1	Describe the common sources of various nutrients and special nutritional requirements according to age, sex, activity, physiological conditions	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine, Pediatrics	
CM5.2	Describe and demonstrate the correct method of performing a nutritional assessment of individuals, families and the community by using the appropriate method	S	SH	Y	DOAP sessions	Skill Assessment		General Medicine, Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
CM5.3	Define and describe common nutrition related health disorders (including macro-PEM, Micro-iron, Zn, iodine, Vit. A), their control and management	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine, Pediatrics	
CM5.4	Plan and recommend a suitable diet for the individuals and families based on local availability of foods and economic status, etc in a simulated environment	S	SH	Y	DOAP sessions	Skill Assessment		General Medicine, Pediatrics	
CM5.5	Describe the methods of nutritional surveillance, principles of nutritional education and rehabilitation in the context of socio-cultural factors.	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine, Pediatrics	
CM5.6	Enumerate and discuss the National Nutrition Policy, important national nutritional Programs including the Integrated Child Development Services Scheme (ICDS) etc	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Pediatrics	
CM5.7	Describe food hygiene	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			Microbiology
CM5.8	Describe and discuss the importance and methods of food fortification and effects of additives and adulteration	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Pediatrics	
Topic: Basic statistics and its applications Number of competencies: (04) Number of procedures that require certification: (NIL)									
CM6.1	Formulate a research question for a study	K	KH	Y	Small group discussion, Lecture, DOAP sessions	Written / Viva voce/ Skill assessment		General Medicine, Pediatrics	
CM6.2	Describe and discuss the principles and demonstrate the methods of collection, classification, analysis, interpretation and presentation of statistical data	S	SH	Y	Small group, Lecture, DOAP sessions	Written / Viva voce/ Skill assessment		General Medicine, Pediatrics	
CM6.3	Describe, discuss and demonstrate the application of elementary statistical methods including test of significance in various study designs	S	SH	Y	Small group discussion, Lecture, DOAP sessions	Written / Viva voce/ Skill assessment		General Medicine, Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
CM6.4	Enumerate, discuss and demonstrate Common sampling techniques, simple statistical methods, frequency distribution, measures of central tendency and dispersion	S	SH	Y	Small group discussion, Lecture, DOAP sessions	Written / Viva voce/ Skill assessment		General Medicine, Pediatrics	
Topic: Epidemiology Number of competencies: (09) Number of procedures that require certification: (NIL)									
CM7.1	Define Epidemiology and describe and enumerate the principles, concepts and uses	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		General Medicine	
CM7.2	Enumerate, describe and discuss the modes of transmission and measures for prevention and control of communicable and non-communicable diseases	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		General Medicine	
CM7.3	Enumerate, describe and discuss the sources of epidemiological data	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		General Medicine	
CM7.4	Define, calculate and interpret morbidity and mortality indicators based on given set of data	S	SH	Y	Small group, DOAP sessions	Written/ Skill assessment		General Medicine	
CM7.5	Enumerate, define, describe and discuss epidemiological study designs	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		General Medicine	
CM7.6	Enumerate and evaluate the need of screening tests	S	SH	Y	Small group discussion, DOAP sessions	Written/ Skill assessment		General Medicine	
CM7.7	Describe and demonstrate the steps in the Investigation of an epidemic of communicable disease and describe the principles of control measures	S	SH	Y	Small group discussion, DOAP sessions	Written/ Skill assessment		General Medicine	Microbiology
CM7.8	Describe the principles of association, causation and biases in epidemiological studies	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		General Medicine	
CM7.9	Describe and demonstrate the application of computers in epidemiology	S	KH	Y	Small group discussion, DOAP sessions	Written			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Epidemiology of communicable and non- communicable diseases Number of competencies:(7) Number of procedures that require certification:(NIL)									
CM8.1	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for communicable diseases	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		General Medicine, Pediatrics	Microbiology, Pathology
CM8.2	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Non Communicable diseases (diabetes, Hypertension, Stroke, obesity and cancer etc.)	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		General Medicine	
CM8.3	Enumerate and describe disease specific National Health Programs including their prevention and treatment of a case	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		General Medicine, Pediatrics	
CM8.4	Describe the principles and enumerate the measures to control a disease epidemic	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		General Medicine, Pediatrics	
CM8.5	Describe and discuss the principles of planning, implementing and evaluating control measures for disease at community level bearing in mind the public health importance of the disease	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		General Medicine, Pediatrics	
CM8.6	Educate and train health workers in disease surveillance, control & treatment and health education	S	SH	Y	DOAP sessions	Skill assessment			
CM8.7	Describe the principles of management of information systems	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
Topic: Demography and vital statistics Number of competencies: (07) Number of procedures that require certification: (NIL)									
CM9.1	Define and describe the principles of Demography, Demographic cycle, Vital statistics	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
CM9.2	Define, calculate and interpret demographic indices including birth rate, death rate, fertility rates	S	SH	Y	Lecture, Small group discussion, DOAP sessions	Skill assessment		Obstetrics & Gynaecology, Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
CM9.3	Enumerate and describe the causes of declining sex ratio and its social and health implications	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
CM9.4	Enumerate and describe the causes and consequences of population explosion and population dynamics of India.	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
CM9.5	Describe the methods of population control	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		Obstetrics & Gynaecology	
CM9.6	Describe the National Population Policy	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
CM9.7	Enumerate the sources of vital statistics including census, SRS, NFHS, NSSO etc	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
Topic: Reproductive maternal and child health Number of competencies:(09) Number of procedures that require certification: (NIL)									
CM10.1	Describe the current status of Reproductive, maternal, newborn and Child Health	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		Obstetrics & Gynaecology, Pediatrics	
CM10.2	Enumerate and describe the methods of screening high risk groups and common health problems	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		Pediatrics, Obstetrics & Gynaecology	
CM10.3	Describe local customs and practices during pregnancy, childbirth, lactation and child feeding practices	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		Pediatrics, Obstetrics & Gynaecology	
CM10.4	Describe the reproductive, maternal, newborn & child health (RMCH); child survival and safe motherhood interventions	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		Obstetrics & Gynaecology, Pediatrics	
CM10.5	Describe Universal Immunization Program; Integrated Management of Neonatal and Childhood Illness (IMNCI) and other existing Programs.	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		Pediatrics	
CM10.6	Enumerate and describe various family planning methods, their advantages and shortcomings	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
CM10.7	Enumerate and describe the basis and principles of the Family Welfare Program including the organization, technical and operational aspects	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
CM10.8	Describe the physiology, clinical management and principles of adolescent health including ARSH	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
CM10.9	Describe and discuss gender issues and women empowerment	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
Topic: Occupational Health Number of competencies: (05) Number of procedures that require certification: (NIL)									
CM11.1	Enumerate and describe the presenting features of patients with occupational illness including agriculture	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
CM11.2	Describe the role, benefits and functioning of the employees state insurance scheme	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
CM11.3	Enumerate and describe specific occupational health hazards, their risk factors and preventive measures	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
CM11.4	Describe the principles of ergonomics in health preservation	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
CM11.5	Describe occupational disorders of health professionals and their prevention & management	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
Topic: Geriatric services Number of competencies: (04) Number of procedures that require certification: (NIL)									
CM12.1	Define and describe the concept of Geriatric services	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	
CM12.2	Describe health problems of aged population	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	
CM12.3	Describe the prevention of health problems of aged population	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
CM12.4	Describe National program for elderly	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	
Topic: Disaster Management Number of competencies: (04) Number of procedures that require certification: (NIL)									
CM13.1	Define and describe the concept of Disaster management	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Surgery, General Medicine	
CM13.2	Describe disaster management cycle	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Surgery, General Medicine	
CM13.3	Describe man made disasters in the world and in India	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Surgery, General Medicine	
CM13.4	Describe the details of the National Disaster management Authority	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Surgery, General Medicine	
Topic: Hospital waste management Number of competencies: (03) Number of procedures that require certification: (NIL)									
CM14.1	Define and classify hospital waste	K	KH	Y	Lecture, Small group discussion, visit to hospital	Written / Viva voce			Microbiology
CM14.2	Describe various methods of treatment of hospital waste	K	KH	Y	Lecture, Small group discussion, visit to hospital	Written / Viva voce			Microbiology
CM14.3	Describe laws related to hospital waste management	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			Microbiology
Topic: Mental Health Number of competencies: (03) Number of procedures that require certification: (NIL)									
CM15.1	Define and describe the concept of mental Health	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Psychiatry	
CM15.2	Describe warning signals of mental health disorder	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Psychiatry	
CM15.3	Describe National Mental Health program	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Psychiatry	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Health planning and management		Number of competencies: (04)			Number of procedures that require certification: (NIL)				
CM16.1	Define and describe the concept of Health planning	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM16.2	Describe planning cycle	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM16.3	Describe Health management techniques	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM16.4	Describe health planning in India and National policies related to health and health planning	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
Topic: Health care of the communitiy		Number of competencies:(05)			Number of procedures that require certification: (NIL)				
CM17.1	Define and describe the concept of health care to community	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM17.2	Describe community diagnosis	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM17.3	Describe primary health care, its components and principles	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM17.4	Describe National policies related to health and health planning and millennium development goals	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM17.5	Describe health care delivery in India	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
Topic: International Health		Number of competencies: (2)			Number of procedures that require certionat(NIL)				
CM18.1	Define and describe the concept of International health	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM18.2	Describe roles of various international health agencies	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Essential Medicine		Number of competencies: (3)			Number of procedures that require certification: (NIL)				
CM19.1	Define and describe the concept of Essential Medicine List (EML)	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			Pharmacology
CM19.2	Describe roles of essential medicine in primary health care	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			Pharmacology
CM19.3	Describe counterfeit medicine and its prevention	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			Pharmacology
Topic: Recent advances in Community Medicine		Number of competencies: (04)			Number of procedures that require certification: (NIL)				
CM20.1	List important public health events of last five years	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM20.2	Describe various issues during outbreaks and their prevention	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM 20.3	Describe any event important to Health of the Community	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM 20.4	Demonstrate awareness about laws pertaining to practice of medicine such as Clinical establishment Act and Human Organ Transplantation Act and its implications	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
	Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation								
Intergration									
Physiology									
PY9.6	Enumerate the contraceptive methods for male and female. Discuss their advantages & disadvantages	K	KH	Y	Lectures, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, Community Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Biochemistry									
BI8.5	Summarize the nutritional importance of commonly used items of food including fruits and vegetables.(macro-molecules & its importance)	K	KH	Y	Lectures, Small group discussions	Written/ Viva voce		Community Medicine, General Medicine, Pediatrics	
Pathology									
PA12.1	Enumerate and describe the pathogenesis of disorders caused by air pollution, tobacco and alcohol	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			Community Medicine
PA26.5	Define and describe the etiology, types, exposure, environmental influence, pathogenesis, stages, morphology, microscopic appearance and complications of Occupational lung disease	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine, Community Medicine	
PA26.7	Define and describe the etiology, types, exposure, genetics environmental influence, pathogenesis, morphology, microscopic appearance and complications of mesothelioma	K	KH	N	Lecture, Small group discussion	Written / Viva voce		General Medicine, Community Medicine	
Microbiology									
MI1.3	Describe the epidemiological basis of common infectious diseases	K	KH	Y	Lecture	Written/ Viva voce			Community Medicine
MI8.4	Describe the etiologic agents of emerging Infectious diseases. Discuss the clinical course and diagnosis	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine, Community Medicine	Community Medicine
MI8.5	Define Healthcare Associated Infections (HAI) and enumerate the types. Discuss the factors that contribute to the development of HAI and the methods for prevention	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Community Medicine	
MI8.6	Describe the basics of Infection control	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
MI8.7	Demonstrate Infection control practices and use of Personal Protective Equipments (PPE)	S	P	Y	DOAP session	Skill assessment	3 each in (Hand hygiene & PPE)	General Surgery	Community Medicine
MI8.16	Describe the National Health Programs in the prevention of common infectious disease (for information purpose only as taught in CM)	K	K	Y	Lecture	Written / Viva voce			
Pharmacology									
PH1.55	Describe and discuss the following National Health programmes including Immunisation, Tuberculosis, Leprosy, Malaria, HIV, Filaria, Kala Azar, Diarrhoeal diseases, Anaemia & nutritional disorders, Blindness, Non-communicable diseases, Cancer and Iodine deficiency	K	KH	Y	Lecture	Written / Viva voce			Community Medicine
Forensic Medicine & Toxicology									
FM2.33	Demonstrate ability to use local resources whenever required like in mass disaster situations	A & C	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Community Medicine	
Dermatology, Venereology & Leprosy									
DR9.1	Classify, describe the epidemiology, etiology, microbiology pathogenesis and clinical presentations and diagnostic features of Leprosy	K	KH	Y	Lecture, Small group discussions	Written / Viva voce		General Medicine	Microbiology, Community Medicine
DR9.5	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for various classes of leprosy based on national guidelines	K	KH	Y	Lecture, Small group discussions	Written / Viva voce		General Medicine	Pharmacology, Community Medicine
DR9.6	Describe the treatment of Leprosy based on the WHO guidelines	K	KH	Y	Lecture, Small group discussions	Written / Viva voce		General Medicine	Pharmacology, Community Medicine
Ophthalmology									
OP9.4	Enumerate, describe and discuss the causes of avoidable blindness and the National Programs for Control of Blindness (including vision 2020)	K	KH	Y	Lecture, Small group discussions	Written / Viva voce			Community Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Psychiatry									
PS19.1	Describe the relevance, role and status of community psychiatry	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	
PS19.2	Describe the objectives strategies and contents of the of the National Mental Health Programme	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	
PS19.4	Enumerate and describe the salient features of the prevalent mental health laws in India	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	
PS19.5	Describe the concept and principles of preventive psychiatry and mental health promotion (positive mental health); and community education	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	
General Medicine									
IM2.1	Discuss and describe the epidemiology, antecedents and risk factors for atherosclerosis and ischemic heart disease	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Pathology, Physiology, Community Medicine	
IM4.3	Discuss and describe the common causes, pathophysiology and manifestations of fever in various regions in India including bacterial, parasitic and viral causes (e.g. Dengue, Chikungunya, Typhus)	K	K	Y	Lecture, Small group discussion	Written		Microbiology, Community Medicine	
IM9.15	Describe the national programs for anemia prevention	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Pharmacology, Community Medicine	
IM12.12	Describe and discuss the iodisation programs of the government of India	K	KH	Y	Lecture, Bedside clinic	short note		Community Medicine	
IM14.4	Describe and discuss the impact of environmental factors including eating habits, food, work, environment and physical activity on the incidence of obesity	K	K	Y	Lectures, Small group discussions	short note/ Viva voce		Pathology, Community Medicine	
IM24.18	Describe the impact of the demographic changes in ageing on the population	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM25.1	Describe and discuss the response and the influence of host immune status, risk factors and comorbidities on zoonotic diseases (e.g. Leptospirosis, Rabies) and non-febrile infectious disease (e.g. Tetanus)	K	K	Y	Lecture, Small group discussion	Written		Microbiology, Community Medicine	
IM25.2	Discuss and describe the common causes, pathophysiology and manifestations of these diseases	K	K	Y	Lecture, Small group discussion	Written		Microbiology, Community Medicine	
IM25.4	Elicit document and present a medical history that helps delineate the aetiology of these diseases that includes the evolution and pattern of symptoms, risk factors, exposure through occupation and travel	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Community Medicine	
IM25.13	Counsel the patient and family on prevention of various infections due to environmental issues	C	SH	Y	DOAP session	Skill assessment		Community Medicine, General Medicine	
Obstetrics & Gynaecology									
OG1.1	Define and discuss birth rate, maternal mortality and morbidity	K	KH	Y	Lecture, Small group discussions	Short notes		Community Medicine	
OG1.2	Define and discuss perinatal mortality and morbidity including perinatal and neonatal mortality and morbidity audit	K	KH	Y	Lecture, Small group discussions	Short notes		Community Medicine	Pediatrics
OG8.1	Enumerate describe and discuss the objectives of antenatal care, assessment of period of gestation; screening for high-risk factors	K	KH	Y	Small group discussions, Bedside clinics, Lecture	Written / Viva voce/ Skill assessment		Community Medicine	
OG19.2	Counsel in a simulated environment, contraception and puerperal sterilisation	S/A/C	SH	Y	DOAP session	Skill assessment		Community Medicine	
OG21.1	Describe and discuss the temporary and permanent methods of contraception, indications, technique and complications; selection of patients, side effects and failure rate including OC, male contraception, emergency contraception and IUCD	K	KH	Y	Lecture, Small group discussions, Bedside clinics	Written / Viva voce/ Skill assessment		Community Medicine	
OG33.3	Describe and demonstrate the screening for cervical cancer in a simulated environment	K/S	SH	Y	DOAP session	Skill assessment		Community Medicine	
Pediatrics									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PE3.5	Discuss the role of the child developmental unit in management of developmental delay	K	K	N	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
PE3.7	Visit a Child Developmental unit and observe its functioning	S	KH	Y	Lecture, Small group discussion	Log book Entry		Community Medicine	
PE8.1	Define the term Complementary Feeding	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
PE8.2	Discuss the principles the initiation, attributes , frequency, techniques and hygiene related to complementary feeding including	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	
PE8.3	Enumerate the common complimentary foods	K	K	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	
PE8.4	Elicit history on the Complementary Feeding habits	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment		Community Medicine	
PE8.5	Counsel and educate mothers on the best practices in Complimentary Feeding	A/C	SH	Y	DOAP session	Document in Log Book		Community Medicine	
PE9.1	Describe the age related nutritional needs of infants, children and adolescents including micronutrients and vitamins	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine, Biochemistry	
PE9.2	Describe the tools and methods for Assessment and classification of Nutritional status of infants, children and adolescents	K	KH	Y	Lecture, Small group discussion,	Written / Viva voce		Community Medicine	
PE9.4	Elicit, Document and present an appropriate nutritional history and perform a dietary recall	S	SH	Y	Bedside clinic, Skill Lab	Skill Assessment		Community Medicine	
PE9.5	Calculate the age related Calorie requirement in Health and Disease and identify gap	S	SH	Y	Bedside clinics, Small group discussion	Skill assessment		Community Medicine	
PE9.6	Assess and classify the nutrition status of infants, children and adolescents and recognize deviations	S	SH	Y	Bedside clinic, Small group discussion	Skill Assessment		Community Medicine	
PE9.7	Plan an appropriate diet in Health and disease	S	SH	N	Bedside clinic, Small group discussion	Document in logbook		Community Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PE10.4	Identify children with under nutrition as per IMNCI criteria and plan referral	S	SH	Y	DOAP session	Document in log book		Community Medicine	
PE17.1	State the vision and outline the goals, strategies and plan of action of NHM and other important national programs pertaining to maternal and child health including RMNCH A+, RBSK, RKSK, JSSK mission Indradhanush and ICDS	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
PE17.2	Analyse the outcomes and appraise the monitoring and evaluation of NHM	K	KH	Y	Debate	Written/ Viva voce		Community Medicine	
PE18.1	List and explain the components, plans, outcomes of Reproductive child health (RCH) program and appraise the monitoring and evaluation	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	Obstetrics & Gynaecology
PE18.2	Explain preventive interventions for Child survival and safe motherhood	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	Obstetrics & Gynaecology
PE18.3	Conduct Antenatal examination of women independently and apply at-risk approach in antenatal care	S	SH	Y	Bedside clinics	Skill station		Community Medicine	Obstetrics & Gynaecology
PE18.4	Provide intra-natal care and conduct a normal Delivery in a simulated environment	S	SH	Y	DOAP session, Skills lab	Document in Log Book		Community Medicine	Obstetrics & Gynaecology
PE18.6	Perform Postnatal assessment of newborn and mother, provide advice on breast feeding, weaning and on family planning	S	SH	Y	Bedside clinics, Skill Lab	Skill Assessment		Community Medicine	Obstetrics & Gynaecology
PE18.8	Observe the implementation of the program by Visiting the Rural Health Centre	S	KH	Y	Bedside clinics, Skill Lab	Document in log book		Community Medicine	Obstetrics & Gynaecology
PE19.1	Explain the components of the Universal immunization Program and the sub National Immunization Programs	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology	
PE19.2	Explain the epidemiology of Vaccine preventable diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology	
PE19.3	Vaccine description with regard to classification of vaccines, strain used, dose, route, schedule, risks, benefits and side effects, indications and contraindications	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology	
PE19.4	Define cold chain and discuss the methods of safe storage and handling of vaccines	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine, Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PE19.5	Discuss immunization in special situations – HIV positive children, immunodeficiency, preterm , organ transplants, those who received blood and blood products, splenectomised children, Adolescents, travellers	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine, Microbiology	
PE19.8	Demonstrate willingness to participate in the National and sub national immunisation days	A	SH	Y	Lecture, Small group discussion	Document in Log Book		Community Medicine	
PE19.12	Observe the Administration the UIP vaccines	S	SH	Y	DOAP session	Document in Log Book		Community Medicine	
PE29.5	Discuss the National anaemia Control program	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	
PE34.3	Discuss the various regimens for management of Tuberculosis as per National Guidelines	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Community Medicine, Pharmacology	Respiratory Medicine
PE34.4	Discuss the preventive strategies adopted and the objectives and outcome of the National Tuberculosis Control Program	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Community Medicine, Pharmacology	Respiratory Medicine
General Surgery									
SU7.1	Describe the Planning and conduct of Surgical audit	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	
SU7.2	Describe the principles and steps of clinical research in surgery	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	
Respiratory Medicine									
CT1.1	Describe and discuss the epidemiology of tuberculosis and its impact on the work, life and economy of India	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	
CT1.4	Describe the epidemiology, the predisposing factors and microbial and therapeutic factors that determine resistance to drugs	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine, Microbiology, Pharmacology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
CT1.15	Prescribe an appropriate antituberculosis regimen based on the location of disease, smear positivity and negativity and co-morbidities based on current national guidelines including directly observed tuberculosis therapy (DOTS)	K	SH	Y	Bedside clinic, Small group discussion, Lecture	Skill assessment		Pharmacology, Community Medicine	
CT1.16	Describe the appropriate precautions, screening, testing and indications for chemoprophylaxis for contacts and exposed health care workers	K	KH	Y	Bedside clinic, Small group discussion	Written		Community Medicine	
CT1.18	Educate health care workers on national programs of Tuberculosis and administering and monitoring the DOTS program	C	SH	Y	DOAP session	Skill assessment		Community Medicine	
CT2.24	Recognise the impact of OAD on patient's quality of life, well being, work and family	A	KH	Y	Small group discussion, Bedside clinic	Observation by faculty		Community Medicine	
CT2.25	Discuss and describe the impact of OAD on the society and workplace	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	
CT2.26	Discuss and describe preventive measures to reduce OAD in workplaces	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Community Medicine	
CT2.27	Demonstrate an understanding of patient's inability to change working, living and environmental factors that influence progression of airway disease	A	KH	Y	Small group discussion, Bedside clinic	Observation by faculty		Community Medicine	

GENERAL MEDICINE (CODE: IM)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
GENERAL MEDICINE									
Topic: Heart Failure		Number of competencies: (30)			Number of procedures that require certification : (01)				
IM1.1	Describe and discuss the epidemiology, pathogenesis clinical evolution and course of common causes of heart disease including: rheumatic/ valvular, ischemic, hypertrophic inflammatory	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.2	Describe and discuss the genetic basis of some forms of heart failure	K	KH	N	Lecture, Small group discussion	Written		Pathology, Physiology	
IM1.3	Describe and discuss the aetiology microbiology pathogenies and clinical evolution of rheumatic fever, criteria, degree of rheumatic activity and rheumatic valvular heart disease and its complications including infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology, Microbiology	
IM1.4	Stage heart failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.5	Describe ,discuss and differentiate the processes involved in R Vs L heart failure, systolic vs diastolic failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.6	Describe and discuss the compensatory mechanisms involved in heart failure including cardiac remodelling and neurohormonal adaptations	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.7	Enumerate, describe and discuss the factors that exacerbate heart failure including ischemia, arrhythmias, anemia, thyrotoxicosis, dietary factors drugs etc.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.8	Describe and discuss the pathogenesis and development of common arrhythmias involved in heart failure particularly atrial fibrillation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM1.9	Describe and discuss the clinical presentation and features, diagnosis, recognition and management of acute rheumatic fever	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM1.10	Elicit document and present an appropriate history that will establish the diagnosis, cause and severity of heart failure including: presenting complaints, precipitating and exacerbating factors, risk factors exercise tolerance, changes in sleep patterns, features suggestive of infective endocarditis	S	SH	Y	Bedside clinic	Skill assessment			
IM1.11	Perform and demonstrate a systematic examination based on the history that will help establish the diagnosis and estimate its severity including: measurement of pulse, blood pressure and respiratory rate, jugular venous forms and pulses, peripheral pulses, conjunctiva and fundus, lung, cardiac examination including palpation and auscultation with identification of heart sounds and murmurs, abdominal distension and splenic palpation	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM1.12	Demonstrate peripheral pulse, volume, character, quality and variation in various causes of heart failure	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM1.13	Measure the blood pressure accurately, recognise and discuss alterations in blood pressure in valvular heart disease and other causes of heart failure and cardiac tamponade	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM1.14	Demonstrate and measure jugular venous distension	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM1.15	Identify and describe the timing, pitch quality conduction and significance of precordial murmurs and their variations	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM1.16	Generate a differential diagnosis based on the clinical presentation and prioritise it based on the most likely diagnosis	K	KH	Y	Bedside clinic, Small group discussion	Skill assessment			
IM1.17	Order and interpret diagnostic testing based on the clinical diagnosis including 12 lead ECG, Chest radiograph, blood cultures	K	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM1.18	Perform and interpret a 12 lead ECG	S	P	Y	Bedside clinic, DOAP session	Skill assessment	3		
IM1.19	Enumerate the indications for and describe the findings of heart failure with the following conditions including: 2D echocardiography, brain natriuretic peptide, exercise testing, nuclear medicine testing and coronary angiogram	S	KH	N	Lecture, Small group discussion, Bedside clinic	Skill assessment		Radiodiagnosis	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM1.20	Determine the severity of valvular heart disease based on the clinical and laboratory and imaging features and determine the level of intervention required including surgery	C	SH	Y	Small group discussion, Lecture, Bedside clinic	Written/ Skill assessment			
IM1.21	Describe and discuss and identify the clinical features of acute and subacute endocarditis, echocardiographic findings, blood culture and sensitivity and therapy	K	KH/SH	Y	Bedside clinic, Small group discussion, Lecture	Skill assessment			
IM1.22	Assist and demonstrate the proper technique in collecting specimen for blood culture	S	SH	Y	DOAP session	Skill assessment		Microbiology	
IM1.23	Describe, prescribe and communicate non pharmacologic management of heart failure including sodium restriction, physical activity and limitations	S/C	SH	Y	Lecture, Small group discussion	Skill assessment			
IM1.24	Describe and discuss the pharmacology of drugs including indications, contraindications in the management of heart failure including diuretics, ACE inhibitors, Beta blockers, aldosterone antagonists and cardiac glycosides	K	KH	Y	Lecture, Small group discussion	Viva voce/written		Pharmacology	
IM1.25	Enumerate the indications for valvuloplasty, valvotomy, coronary revascularization and cardiac transplantation	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Viva voce/written			
IM1.26	Develop document and present a management plan for patients with heart failure based on type of failure, underlying aetiology	S	SH	Y	Bedside clinic, Skill assessment, Small group discussion	Bedside clinic/ Skill assessment/written			
IM1.27	Describe and discuss the role of penicillin prophylaxis in the prevention of rheumatic heart disease	K	KH	Y	Bedside clinic, Small group discussion	Written		Microbiology, Pharmacology	
IM1.28	Enumerate the causes of adult presentations of congenital heart disease and describe the distinguishing features between cyanotic and acyanotic heart disease	K	KH	Y	Bedside clinic, Small group discussion	Bedside clinic/ Skill assessment/written			
IM1.29	Elicit document and present an appropriate history, demonstrate correctly general examination, relevant clinical findings and formulate document and present a management plan for an adult patient presenting with a common form of congenital heart disease	K	KH	Y	Bedside clinic, Small group discussion	Skill assessment/ written			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM1.30	Administer an intramuscular injection with an appropriate explanation to the patient	S	SH	Y	Bedside clinic, Skill assessment	Log book documentation of completion		Pharmacology	
Topic: Acute Myocardial Infarction/ IHD Number of competencies: (24) Number of procedures that require certification : (02)									
IM2.1	Discuss and describe the epidemiology, antecedents and risk factors for atherosclerosis and ischemic heart disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology, Community Medicine	
IM2.2	Discuss the aetiology of risk factors both modifiable and non modifiable of atherosclerosis and IHD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM2.3	Discuss and describe the lipid cycle and the role of dyslipidemia in the pathogenesis of atherosclerosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	
IM2.4	Discuss and describe the pathogenesis natural history, evolution and complications of atherosclerosis and IHD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM2.5	Define the various acute coronary syndromes and describe their evolution, natural history and outcomes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM2.6	Elicit document and present an appropriate history that includes onset evolution, presentation risk factors, family history, comorbid conditions, complications, medication, history of atherosclerosis, IHD and coronary syndromes	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM2.7	Perform, demonstrate and document a physical examination including a vascular and cardiac examination that is appropriate for the clinical presentation	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM2.8	Generate document and present a differential diagnosis based on the clinical presentation and prioritise based on “cannot miss”, most likely diagnosis and severity	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM2.9	Distinguish and differentiate between stable and unstable angina and AMI based on the clinical presentation	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM2.10	Order, perform and interpret an ECG	S	P	Y	Bedside clinic, DOAP session	Skill assessment	3		

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM2.11	Order and interpret a Chest X-ray and markers of acute myocardial infarction	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM2.12	Choose and interpret a lipid profile and identify the desirable lipid profile in the clinical context	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Biochemistry	
IM2.13	Discuss and enumerate the indications for and findings on echocardiogram, stress testing and coronary angiogram	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM2.14	Discuss and describe the indications for admission to a coronary care unit and supportive therapy for a patient with acute coronary syndrome	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM2.15	Discuss and describe the medications used in patients with an acute coronary syndrome based on the clinical presentation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM2.16	Discuss and describe the indications for acute thrombolysis, PTCA and CABG	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM2.17	Discuss and describe the indications and methods of cardiac rehabilitation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM2.18	Discuss and describe the indications, formulations, doses, side effects and monitoring for drugs used in the management of dyslipidemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Biochemistry	
IM2.19	Discuss and describe the pathogenesis, recognition and management of complications of acute coronary syndromes including arrhythmias, shock, LV dysfunction, papillary muscle rupture and pericarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM2.20	Discuss and describe the assessment and relief of pain in acute coronary syndromes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM2.21	Observe and participate in a controlled environment an ACLS program	S	KH	N	DOAP session	NA			
IM2.22	Perform and demonstrate in a mannequin BLS	S	P	Y	DOAP session	Skill assessment	1		

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM2.23	Describe and discuss the indications for nitrates, anti platelet agents, gpIIb IIIa inhibitors, beta blockers, ACE inhibitors etc in the management of coronary syndromes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM2.24	Counsel and communicate to patients with empathy lifestyle changes in atherosclerosis / post coronary syndromes	C/A	SH	Y	DOAP session	Skill assessment		AETCOM	
Topic: Pneumonia		Number of competencies: (19)			Number of procedures that require certification: (NIL)				
IM3.1	Define, discuss, describe and distinguish community acquired pneumonia, nosocomial pneumonia and aspiration pneumonia	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Human Anatomy, Pathology, Microbiology	
IM3.2	Discuss and describe the aetiologies of various kinds of pneumonia and their microbiology depending on the setting and immune status of the host	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Microbiology	
IM3.3	Discuss and describe the pathogenesis, presentation, natural history and complications of pneumonia	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology, Microbiology	
IM3.4	Elicit document and present an appropriate history including the evolution, risk factors including immune status and occupational risk	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM3.5	Perform, document and demonstrate a physical examination including general examination and appropriate examination of the lungs that establishes the diagnosis, complications and severity of disease	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM3.6	Generate document and present a differential diagnosis based on the clinical features, and prioritise the diagnosis based on the presentation	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM3.7	Order and interpret diagnostic tests based on the clinical presentation including: CBC, Chest X ray PA view, Mantoux, sputum gram stain, sputum culture and sensitivity, pleural fluid examination and culture, HIV testing and ABG	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Radiodiagnosis, Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM3.8	Demonstrate in a mannequin and interpret results of an arterial blood gas examination	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM3.9	Demonstrate in a mannequin and interpret results of a pleural fluid aspiration	S	SH	Y	DOAP session	Skill assessment			
IM3.10	Demonstrate the correct technique in a mannequin and interpret results of a blood culture	S	SH	Y	DOAP session	Skill assessment		Microbiology	
IM3.11	Describe and enumerate the indications for further testing including HRCT, Viral cultures, PCR and specialised testing	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Radiodiagnosis, Microbiology	
IM3.12	Select, describe and prescribe based on the most likely aetiology, an appropriate empirical antimicrobial based on the pharmacology and antimicrobial spectrum	S	SH	Y	Bed side clinic, DOAP session	Skill Assessment/ Written/ Viva voce		Pharmacology, Microbiology	
IM3.13	Select, describe and prescribe based on culture and sensitivity appropriate empirical antimicrobial based on the pharmacology and antimicrobial spectrum.	S	SH	Y	Bedside clinic, DOAP session	Skill assessment/ Written/ Viva voce		Pharmacology, Microbiology	
IM3.14	Perform and interpret a sputum gram stain and AFB	S	P	Y	DOAP session	Skill assessment		Microbiology	
IM3.15	Describe and enumerate the indications for hospitalisation in patients with pneumonia	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce			
IM3.16	Describe and enumerate the indications for isolation and barrier nursing in patients with pneumonia	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce			
IM3.17	Describe and discuss the supportive therapy in patients with pneumonia including oxygen use and indications for ventilation	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce			
IM3.18	Communicate and counsel patient on family on the diagnosis and therapy of pneumonia	C/A	SH	Y	DOAP session	Skill assessment			
IM3.19	Discuss, describe, enumerate the indications and communicate to patients on pneumococcal and influenza vaccines	S/C	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Microbiology	
Topic: Fever and febrile syndromes Number of competencies: (26) Number of procedures that require certification : (NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM4.1	Describe and discuss the febrile response and the influence of host immune status, risk factors and comorbidities on the febrile response	K	K	Y	Lecture, Small group discussion	Written		Microbiology	
IM4.2	Describe and discuss the influence of special populations on the febrile response including: the elderly, immune suppression, malignancy and neutropenia, HIV and travel	K	K	Y	Lecture, Small group discussion	Written		Microbiology	
IM4.3	Discuss and describe the common causes, pathophysiology and manifestations of fever in various regions in India including bacterial, parasitic and viral causes (e.g.Dengue, Chikungunya, Typhus)	K	K	Y	Lecture, Small group discussion	Written		Microbiology, Community Medicine	
IM4.4	Describe and discuss the pathophysiology and manifestations of inflammatory causes of fever	K	KH	Y	Lecture, Small group discussion	Written		Microbiology	
IM4.5	Describe and discuss the pathophysiology and manifestations of malignant causes of fever including hematologic and lymph node malignancies	K	KH	Y	Lecture, Small group discussion	Written		Pathology, Microbiology	
IM4.6	Discuss and describe the pathophysiology and manifestations of malaria	K	KH	Y	Lecture, Small group discussion	Written		Microbiology	
IM4.7	Discuss and describe the pathophysiology and manifestations of the sepsis syndrome	K	K	Y	Lecture, Small group discussion	Written			
IM4.8	Discuss and describe the pathophysiology, aetiology and clinical manifestations of fever of unknown origin (FUO) including in a normal host, neutropenic host, nosocomial host and a host with HIV disease	K	K	Y	Lecture, Small group discussion	Written		Microbiology	
IM4.9	Elicit document and present a medical history that helps delineate the aetiology of fever that includes the evolution and pattern of fever, associated symptoms, immune status, comorbidities, risk factors, exposure through occupation, travel and environment and medication use	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM4.10	Perform a systematic examination that establishes the diagnosis and severity of presentation that includes: general skin mucosal and lymph node examination, chest and abdominal examination (including examination of the liver and spleen)	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM4.11	Generate a differential diagnosis and prioritise based on clinical features that help distinguish between infective, inflammatory, malignant and rheumatologic causes	K	SH	Y	Bedside clinic, DOAP session	Written/ Viva voce			
IM4.12	Order and interpret diagnostic tests based on the differential diagnosis including: CBC with differential, peripheral smear, urinary analysis with sediment, Chest X ray, blood and urine cultures, sputum gram stain and cultures, sputum AFB and cultures, CSF analysis, pleural and body fluid analysis, stool routine and culture and QBC	K	SH	Y	Bedside clinic, Skill assessment	Skill assessment		Pathology, Microbiology	
IM4.13	Perform and interpret a sputum gram stain	S	SH	Y	DOAP session	Log book/ documentation		Microbiology	
IM4.14	Perform and interpret a sputum AFB	S	SH	Y	DOAP session	Log book/ documentation		Microbiology	
IM4.15	Perform and interpret a malarial smear	S	SH	Y	DOAP session	Log book/ documentation/ Skill assessment		Microbiology	
IM4.16	Enumerate the indications and describe the findings in tests of inflammation and specific rheumatologic tests, serologic testing for pathogens including HIV, bone marrow aspiration and biopsy	K	KH	N	Lecture, Small group discussion	Written		Pathology	
IM4.17	Observe and assist in the performance of a bone marrow aspiration and biopsy in a simulated environment	S	SH	N	Skills lab	Log book/ documentation/ DOAP session		Pathology	
IM4.18	Enumerate the indications for use of imaging in the diagnosis of febrile syndromes	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			
IM4.19	Assist in the collection of blood and wound cultures	S	SH	Y	DOAP session	Log book/ documentation		Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM4.20	Interpret a PPD (Mantoux)	S	SH	Y	DOAP session	Log book/ documentation		Microbiology	
IM4.21	Develop and present an appropriate diagnostic plan based on the clinical presentation, most likely diagnosis in a prioritised and cost effective manner	K	KH	Y	Bedside clinic, Skill assessment	Skill assessment			
IM4.22	Describe and discuss the pharmacology, indications, adverse reactions, interactions of antimalarial drugs and basis of resistance	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM4.23	Prescribe drugs for malaria based on the species identified, prevalence of drug resistance and national programs	S	SH	Y	Small group discussion	Skill assessment		Microbiology, Pharmacology	
IM4.24	Develop an appropriate empiric treatment plan based on the patient's clinical and immune status pending definitive diagnosis	C	SH	Y	DOAP session	Skill assessment			
IM4.25	Communicate to the patient and family the diagnosis and treatment	C	SH	Y	DOAP session	Skill assessment		AETCOM	
IM4.26	Counsel the patient on malarial prevention	C	SH	Y	DOAP session	Skill assessment		Microbiology, Pharmacology	
Topic: Liver disease Number of competencies: (18) Number of procedures that require certification : (NIL)									
IM5.1	Describe and discuss the physiologic and biochemical basis of hyperbilirubinemia	K	K	Y	Lecture, Small group discussion	Written/Viva voce		Pathology, Physiology	
IM5.2	Describe and discuss the aetiology and pathophysiology of liver injury	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM5.3	Describe and discuss the pathologic changes in various forms of liver disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM5.4	Describe and discuss the epidemiology, microbiology, immunology and clinical evolution of infective (viral) hepatitis	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	
IM5.5	Describe and discuss the pathophysiology and clinical evolution of alcoholic liver disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM5.6	Describe and discuss the pathophysiology, clinical evolution and complications of cirrhosis and portal hypertension including ascites, spontaneous bacterial peritonitis, hepatorenal syndrome and hepatic encephalopathy	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM5.7	Enumerate and describe the causes and pathophysiology of drug induced liver injury	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Pharmacology	
IM5.8	Describe and discuss the pathophysiology, clinical evolution and complications cholelithiasis and cholecystitis	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
IM5.9	Elicit document and present a medical history that helps delineate the aetiology of the current presentation and includes clinical presentation, risk factors, drug use, sexual history, vaccination history and family history	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM5.10	Perform a systematic examination that establishes the diagnosis and severity that includes nutritional status, mental status, jaundice, abdominal distension ascites, features of portosystemic hypertension and hepatic encephalopathy	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM5.11	Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology for the presenting symptom	K	KH	Y	Bedside clinic, DOAP session	Skill assessment/ Viva voce			
IM5.12	Choose and interpret appropriate diagnostic tests including: CBC, bilirubin, function tests, Hepatitis serology and ascitic fluid examination in patient with liver diseases.	S	KH	Y	Bedside clinic, DOAP session	Skill assessment		Pathology	
IM5.13	Enumerate the indications for ultrasound and other imaging studies including MRCP and ERCP and describe the findings in liver disease	K	K	Y	Bedside clinic, Small group discussion	Viva voce/ Written		Radiodiagnosis	General Surgery
IM5.14	Outline a diagnostic approach to liver disease based on hyperbilirubinemia, liver function changes and hepatitis serology	S	SH	Y	Bedside clinic, Small group discussion	Viva voce/ Written		Pathology, Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM5.15	Assist in the performance and interpret the findings of an ascitic fluid analysis	S	KH	Y	DOAP session	documentation in log book			
IM5.16	Describe and discuss the management of hepatitis, cirrhosis, portal hypertension, ascites spontaneous, bacterial peritonitis and hepatic encephalopathy	K	KH	Y	Written, Small group discussion	Skill assessment/ Written/ Viva voce		Pharmacology	General Surgery
IM5.17	Enumerate the indications, precautions and counsel patients on vaccination for hepatitis	K/C	SH	Y	Written, Small group discussion	Written/ Viva voce		Microbiology	
IM5.18	Enumerate the indications for hepatic transplantation	K	K	Y	Written, Small group discussion	Written/ Viva voce			General Surgery
Topic: HIV Number of competencies: (23) Number of procedures that require certification : (NIL)									
IM6.1	Describe and discuss the symptoms and signs of acute HIV seroconversion	K	KH	Y	Lecture, Small group discussion	Short note/ Viva voce		Microbiology	
IM6.2	Define and classify HIV AIDS based on the CDC criteria	K	KH	Y	Lecture, Small group discussion	Short notes/ Viva voce		Microbiology	
IM6.3	Describe and discuss the relationship between CDC count and the risk of opportunistic infections	K	KH	Y	Lecture, Small group discussion	Short notes/ Viva voce		Microbiology	
IM6.4	Describe and discuss the pathogenesis, evolution and clinical features of common HIV related opportunistic infections	K	KH	Y	Lecture, Small group discussion	Short notes/ Viva voce		Microbiology	
IM6.5	Describe and discuss the pathogenesis, evolution and clinical features of common HIV related malignancies	K	KH	Y	Lecture, Small group discussion	Short notes/ Viva voce		Pathology, Microbiology	
IM6.6	Describe and discuss the pathogenesis, evolution and clinical features of common HIV related skin and oral lesions	K	KH	Y	Lecture, Small group discussion	Short notes/ Viva voce		Pathology, Microbiology	
IM6.7	Elicit document and present a medical history that helps delineate the aetiology of the current presentation and includes risk factors for HIV, mode of infection, other sexually transmitted diseases, risks for opportunistic infections and nutritional status	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM6.8	Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology for the presenting symptom	S	SH	Y	Bedside clinic, DOAP session, Small group discussion	Skill assessment			
IM6.9	Choose and interpret appropriate diagnostic tests to diagnose and classify the severity of HIV-AIDS including specific tests of HIV, CDC	K	KH	Y	Bedside clinic, DOAP session, Small group discussion	Written/ Skill assessment		Pathology, Microbiology	
IM6.10	Choose and interpret appropriate diagnostic tests to diagnose opportunistic infections including CBC, sputum examination and cultures, blood cultures, stool analysis, CSF analysis and Chest radiographs	S	KH	Y	Bedside clinic, DOAP session, Small group discussion	Written/ Skill assessment			
IM6.11	Enumerate the indications and describe the findings for CT of the chest and brain and MRI	K	K	N	Small group discussion, Lecture, Bedside clinic	Written/ Viva voce		Radiodiagnosis	
IM6.12	Enumerate the indications for and interpret the results of: pulse oximetry, ABG, Chest Radiograph	K	KH	Y	Bedside clinic, DOAP session, Small group discussion	Written/ Skill assessment			
IM6.13	Describe and enumerate the indications and side effects of drugs for bacterial, viral and other types of diarrhea	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Microbiology	
IM6.14	Perform and interpret AFB sputum	S	P	Y	DOAP session	Skill assessment		Microbiology	
IM6.15	Demonstrate in a model the correct technique to perform a lumbar puncture	S	SH	Y	Simulation	Skill assessment		Microbiology	
IM6.16	Discuss and describe the principles of HAART, the classes of antiretrovirals used, adverse reactions and interactions	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Pharmacology	
IM6.17	Discuss and describe the principles and regimens used in post exposure prophylaxis	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Pharmacology	
IM6.18	Enumerate the indications and discuss prophylactic drugs used to prevent HIV related opportunistic infections	K/C	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM6.19	Counsel patients on prevention of HIV transmission	C	SH	Y	DOAP session	Skills assessment		AETCOM	
IM6.20	Communicate diagnosis, treatment plan and subsequent follow up plan to patients	C	SH	Y	DOAP session	Skills assessment		AETCOM	
IM6.21	Communicate with patients on the importance of medication adherence	C	SH	Y	DOAP session	Skills assessment		AETCOM	
IM6.22	Demonstrate understanding of ethical and legal issues regarding patient confidentiality and disclosure in patients with HIV	K/A	SH	Y	DOAP session, Small group discussion	Viva voce/ Written/ Skill Assessment		AETCOM	
IM6.23	Demonstrate a non-judgemental attitude to patients with HIV and to their lifestyles	A	SH	Y	Small group discussion	observation by teacher		AETCOM	
Topic: Rheumatologic problems Number of competencies: (27) Number of procedures that require certification: (NIL)									
IM7.1	Describe the pathophysiology of autoimmune disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM7.2	Describe the genetic basis of autoimmune disease	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM7.3	Classify cause of joint pain based on the pathophysiology	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM7.4	Develop a systematic clinical approach to joint pain based on the pathophysiology	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
IM7.5	Describe and discriminate acute, subacute and chronic causes of joint pain	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
IM7.6	Discriminate, describe and discuss arthralgia from arthritis and mechanical from inflammatory causes of joint pain	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
IM7.7	Discriminate, describe and discuss distinguishing articular from periarticular complaints	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
IM7.8	Determine the potential causes of joint pain based on the presenting features of joint involvement	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM7.9	Describe the common signs and symptoms of articular and periarticular diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
IM7.10	Describe the systemic manifestations of rheumatologic disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM7.11	Elicit document and present a medical history that will differentiate the aetiologies of disease	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM7.12	Perform a systematic examination of all joints, muscle and skin that will establish the diagnosis and severity of disease	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			Orthopedics
IM7.13	Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology	K/S	KH	Y	Bedside clinic, Small group discussion	Skill assessment/ Written			
IM7.14	Describe the appropriate diagnostic work up based on the presumed aetiology	K	KH	Y	Bedside clinic, Small group discussion	Skill assessment/ Written			
IM7.15	Enumerate the indications for and interpret the results of : CBC, anti-CCP, RA, ANA, DNA and other tests of autoimmunity	K	SH	Y	Bedside clinic, Small group discussion	Skill assessment/ Written		Pathology	
IM7.16	Enumerate the indications for arthrocentesis	K	K	Y	Small group discussion, Lecture	Written/ Viva voce			Orthopedics
IM7.17	Enumerate the indications and interpret plain radiographs of joints	K	SH	Y	Bedside clinic, Small group discussion	Skill assessment/ Written		Radiodiagnosis	Orthopedics
IM7.18	Communicate diagnosis, treatment plan and subsequent follow up plan to patients	C	SH	Y	DOAP session	Skill assessment/ Written			
IM7.19	Develop an appropriate treatment plan for patients with rheumatologic diseases	K	KH	Y	Bedside clinic, Small group discussion	Skill assessment/ Written			
IM7.20	Select, prescribe and communicate appropriate medications for relief of joint pain	K/C	SH	Y	DOAP session	Skill assessment/ Written		Pharmacology	Orthopedics
IM7.21	Select, prescribe and communicate preventive therapy for crystalline arthropathies	K/C	SH	Y	DOAP session	Skill assessment/ Written		Pharmacology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM7.22	Select, prescribe and communicate treatment option for systemic rheumatologic conditions	K/C	SH	Y	DOAP session	Skill assessment/ Written		Pharmacology	
IM7.23	Describe the basis for biologic and disease modifying therapy in rheumatologic diseases	K	KH	Y	Bedside clinic, Small group discussion	Skill assessment/ Written		Pharmacology	
IM7.24	Communicate and incorporate patient preferences in the choice of therapy	C/A	SH	Y	DOAP session	Skill assessment		AETCOM	
IM7.25	Develop and communicate appropriate follow up and monitoring plans for patients with rheumatologic conditions	C	SH	Y	DOAP session	Skill assessment			
IM7.26	Demonstrate an understanding of the impact of rheumatologic conditions on quality of life, well being, work and family	A	SH	Y	DOAP session	Skill assessment			
IM7.27	Determine the need for specialist consultation	K	K	Y	Small group discussion, Lecture	Viva voce			
Topic: Hypertension Number of competencies: (20) Number of procedures that require certification: (NIL)									
IM8.1	Describe and discuss the epidemiology, aetiology and the prevalence of primary and secondary hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM8.2	Describe and discuss the pathophysiology of hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM8.3	Describe and discuss the genetic basis of hypertension	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM8.4	Define and classify hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM8.5	Describe and discuss the differences between primary and secondary hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM8.6	Define, describe and discuss and recognise hypertensive urgency and emergency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM8.7	Describe and discuss the clinical manifestations of the various aetiologies of secondary causes of hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM8.8	Describe, discuss and identify target organ damage due to hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM8.9	Elicit document and present a medical history that includes: duration and levels, symptoms, comorbidities, lifestyle, risk factors, family history, psychosocial and environmental factors, dietary assessment, previous and concomitant therapy	K	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM8.10	Perform a systematic examination that includes : an accurate measurement of blood pressure, fundus examination, examination of vasculature and heart	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM8.11	Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM8.12	Describe the appropriate diagnostic work up based on the presumed aetiology	K	KH	Y	Small group discussion	Skill assessment/ Written/ Viva voce			
IM8.13	Enumerate the indications for and interpret the results of : CBC, Urine routine, BUN, Cr, Electrolytes, Uric acid, ECG	K	KH	Y	Small group discussion	Skill assessment/ Written/ Viva voce			
IM8.14	Develop an appropriate treatment plan for essential hypertension	K	KH	Y	Small group discussion	Written/ Viva voce		Pharmacology	
IM8.15	Recognise, prioritise and manage hypertensive emergencies	S	SH	Y	DOAP session	Skill assessment/ Written		Pharmacology	
IM8.16	Develop and communicate to the patient lifestyle modification including weight reduction, moderation of alcohol intake, physical activity and sodium intake	C	SH	Y	DOAP session	Skill assessment			
IM8.17	Perform and interpret a 12 lead ECG	S	P	Y	DOAP session	documentation in log book/ skills station			
IM8.18	Incorporate patient preferences in the management of HTN	A/C	SH	Y	DOAP session	Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM8.19	Demonstrate understanding of the impact of Hypertension on quality of life, well being, work and family	A	SH	Y	Bedside clinic, DOAP session	observation by faculty			
IM8.20	Determine the need for specialist consultation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Anemia Number of competencies: (21) Number of procedures that require certification : (NIL)									
IM9.1	Define, describe and classify anemia based on red blood cell size and reticulocyte count	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM9.2	Describe and discuss the morphological characteristics, aetiology and prevalence of each of the causes of anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM9.3	Elicit document and present a medical history that includes symptoms, risk factors including GI bleeding, prior history, medications, menstrual history, and family history	S	SH	Y	Bed side clinic, DOAP session	Skill assessment			
IM9.4	Perform a systematic examination that includes : general examination for pallor, oral examination, DOAP session of hyper dynamic circulation, lymph node and splenic examination	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM9.5	Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology	S	SH	Y	Bedside clinic, DOAP session	Skill assessment/ Written		Pathology	
IM9.6	Describe the appropriate diagnostic work up based on the presumed aetiology	S	SH	Y	Bedside clinic, DOAP session	Skill assessment/ Written		Pathology	
IM9.7	Describe and discuss the meaning and utility of various components of the hemogram	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		Pathology	
IM9.8	Describe and discuss the various tests for iron deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		Pathology	
IM9.9	Order and interpret tests for anemia including hemogram, red cell indices, reticulocyte count, iron studies, B12 and folate	S	SH	Y	Bedside clinic, DOAP session	Skill assessment/ Written		Pathology	
IM9.10	Describe, perform and interpret a peripheral smear and stool occult blood	S	SH	P	Bedside clinic, DOAP session	Skill assessment/ Written		Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM9.11	Describe the indications and interpret the results of a bone marrow aspirations and biopsy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		Pathology	
IM9.12	Describe, develop a diagnostic plan to determine the aetiology of anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		Pathology	
IM9.13	Prescribe replacement therapy with iron, B12, folate	S	SH	Y	Bedside clinic, DOAP session	Skill assessment/ Written		Pharmacology	
IM9.14	Describe the national programs for anemia prevention	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Community Medicine	
IM9.15	Communicate the diagnosis and the treatment appropriately to patients	C	SH	Y	DOAP session	Skill assessment			
IM9.16	Incorporate patient preferences in the management of anemia	C	SH	Y	DOAP session	Skill assessment			
IM9.17	Describe the indications for blood transfusion and the appropriate use of blood components	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		Pathology	
IM9.18	Describe the precautions required necessary when performing a blood transfusion	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment			
IM9.19	Assist in a blood transfusion	S	SH	Y	Bedside clinic	document in log book			
IM9.20	Communicate and counsel patients with methods to prevent nutritional anemia	C	SH	Y	DOAP session	Skill assessment			
IM9.21	Determine the need for specialist consultation	K	KH	Y	Lecture, Small group discussion	Written			
Topic: Acute Kidney Injury and Chronic renal failure Number of competencies: (31) Number of procedures that require certification: (NIL)									
IM10.1	Define, describe and differentiate between acute and chronic renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.2	Classify, describe and differentiate the pathophysiologic causes of acute renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM10.3	Describe the pathophysiology and causes of pre renal ARF, renal and post renal ARF	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.4	Describe the evolution, natural history and treatment of ARF	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.5	Describe and discuss the aetiology of CRF	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.6	Stage Chronic Kidney Disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.7	Describe and discuss the pathophysiology and clinical findings of uraemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.8	Classify, describe and discuss the significance of proteinuria in CKD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.9	Describe and discuss the pathophysiology of anemia and hyperparathyroidism in CKD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.10	Describe and discuss the association between CKD glycemia and hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.11	Describe and discuss the relationship between CAD risk factors and CKD and in dialysis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM10.12	Elicit document and present a medical history that will differentiate the aetiologies of disease, distinguish acute and chronic disease, identify predisposing conditions, nephrotoxic drugs and systemic causes	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM10.13	Perform a systematic examination that establishes the diagnosis and severity including determination of volume status, presence of edema and heart failure, features of uraemia and associated systemic disease	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM10.14	Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology	K	KH	Y	DOAP session, Small group discussion	Skill assessment/ Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM10.15	Describe the appropriate diagnostic work up based on the presumed aetiology	K	SH	Y	DOAP session, Small group discussion	Skill assessment/ Written/ Viva voce			
IM10.16	Enumerate the indications for and interpret the results of : renal function tests, calcium, phosphorus, PTH, urine electrolytes, osmolality, Anion gap	K	KH	Y	DOAP session, Small group discussion	Skill assessment/ Written/ Viva voce		Pathology	
IM10.17	Describe and calculate indices of renal function based on available laboratories including FENa (Fractional Excretion of Sodium) and CrCl (Creatinine Clearance)	S	SH	Y	DOAP session, Small group discussion	Skill assessment/ Written/ Viva voce		Pathology	
IM10.18	Identify the ECG findings in hyperkalemia	S	SH	Y	DOAP session, Small group discussion	Skill assessment/ Written/ Viva voce			
IM10.19	Enumerate the indications and describe the findings in renal ultrasound	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Radiodiagnosis	
IM10.20	Describe and discuss the indications to perform arterial blood gas analysis: interpret the data	S	P	Y	DOAP session	documentation in log book			
IM10.21	Describe and discuss the indications for and insert a peripheral intravenous catheter	S	P	Y	DOAP session, Bedside clinic	documentation in logbook			
IM10.22	Describe and discuss the indications, demonstrate in a model and assist in the insertion of a central venous or a dialysis catheter	S	SH	N	DOAP session	Skill assessment with model			
IM10.23	Communicate diagnosis treatment plan and subsequent follow up plan to patients	C	SH	Y	DOAP session	Skill assessment			
IM10.24	Counsel patients on a renal diet	K	SH	Y	DOAP session	Skill assessment			
IM10.25	Identify and describe the priorities in the management of ARF including diet, volume management, alteration in doses of drugs, monitoring and indications for dialysis	K/C	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM10.26	Describe and discuss supportive therapy in CKD including diet, anti hypertensives, glycemic therapy, dyslipidemia, anemia, hyperkalemia, hyperphosphatemia and secondary hyperparathyroidism	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM10.27	Describe and discuss the indications for renal dialysis	C/A	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM10.28	Describe and discuss the indications for renal replacement therapy	C	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM10.29	Describe discuss and communicate the ethical and legal issues involved in renal replacement therapy	C/A	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM10.30	Recognise the impact of CKD on patient's quality of life well being work and family	A	K	Y	Lecture, Small group discussion, Bedside clinic	observation by faculty			
IM10.31	Incorporate patient preferences in to the care of CKD	A/C	KH	Y	Lecture, Small group discussion, Bedside clinic	observation by faculty			
Topic: Diabetes Mellitus Number of competencies: (24) Number of procedures that require certification : (02)									
IM11.1	Define and classify diabetes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM11.2	Describe and discuss the epidemiology and pathogenesis and risk factors and clinical evolution of type 1 diabetes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM11.3	Describe and discuss the epidemiology and pathogenesis and risk factors economic impact and clinical evolution of type 2 diabetes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM11.4	Describe and discuss the genetic background and the influence of the environment on diabetes	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			
IM11.5	Describe and discuss the pathogenesis and temporal evolution of microvascular and macrovascular complications of diabetes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM11.6	Describe and discuss the pathogenesis and precipitating factors, recognition and management of diabetic emergencies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM11.7	Elicit document and present a medical history that will differentiate the aetiologies of diabetes including risk factors, precipitating factors, lifestyle, nutritional history, family history, medication history, co-morbidities and target organ disease	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM11.8	Perform a systematic examination that establishes the diagnosis and severity that includes skin, peripheral pulses, blood pressure measurement, fundus examination, detailed examination of the foot (pulses, nervous and deformities and injuries)	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM11.9	Describe and recognise the clinical features of patients who present with a diabetic emergency	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce			
IM11.10	Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce			
IM11.11	Order and interpret laboratory tests to diagnose diabetes and its complications including: glucoses, glucose tolerance test, glycosylated hemoglobin, urinary micro albumin, ECG, electrolytes, ABG, ketones, renal function tests and lipid profile	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Pathology	
IM11.12	Perform and interpret a capillary blood glucose test	S	P	Y	Bedside clinic, DOAP session	Skill assessment	2	Pathology, Biochemistry	
IM11.13	Perform and interpret a urinary ketone estimation with a dipstick	S	P	Y	Bedside clinic, DOAP session	Skill assessment	2	Pathology, Biochemistry	
IM11.14	Recognise the presentation of hypoglycaemia and outline the principles on its therapy	K	KH	Y	Small Group discussion, Lecture	Written/ Viva voce			
IM11.15	Recognise the presentation of diabetic emergencies and outline the principles of therapy	K	KH	Y	Small Group discussion, Lecture	Written/ Viva voce			
IM11.16	Discuss and describe the pharmacologic therapies for diabetes their indications, contraindications, adverse reactions and interactions	K	KH	Y	Small Group discussion, Lecture	Written/ Viva voce		Pharmacology	
IM11.17	Outline a therapeutic approach to therapy of T2Diabetes based on presentation, severity and complications in a cost effective manner	K	KH	Y	Small Group discussion, Lecture	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM11.18	Describe and discuss the pharmacology, indications, adverse reactions and interactions of drugs used in the prevention and treatment of target organ damage and complications of Type II Diabetes including neuropathy, nephropathy, retinopathy, hypertension, dyslipidemia and cardiovascular disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM11.19	Demonstrate and counsel patients on the correct technique to administer insulin	S/C	SH	Y	DOAP session	Skill assessment		Pharmacology	
IM11.20	Demonstrate to and counsel patients on the correct technique of self monitoring of blood glucoses	S/C	SH	Y	DOAP session	Skill assessment			
IM11.21	Recognise the importance of patient preference while selecting therapy for diabetes	A	KH	Y	DOAP session	faculty observation			
IM11.22	Enumerate the causes of hypoglycaemia and describe the counter hormone response and the initial approach and treatment	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM11.23	Describe the precipitating causes, pathophysiology, recognition, clinical features, diagnosis, stabilisation and management of diabetic ketoacidosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM11.24	Describe the precipitating causes, pathophysiology, recognition, clinical features, diagnosis, stabilisation and management of Hyperosmolar non ketotic state	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			
Topic: Thyroid dysfunction Number of competencies: (15) Number of procedures that require certification : (NIL)									
IM12.1	Describe the epidemiology and pathogenesis of hypothyroidism and hyperthyroidism including the influence of iodine deficiency and autoimmunity in the pathogenesis of thyroid disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM12.2	Describe and discuss the genetic basis of some forms of thyroid dysfunction	K	K	N	Lecture, Small group discussion	Written/ Viva voce			
IM12.3	Describe and discuss the physiology of the hypothalamopituitary - thyroid axis, principles of thyroid function testing and alterations in physiologic function	K	K	Y	Lecture, Small group discussion	Short notes		Pathology, Physiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM12.4	Describe and discuss the principles of radio iodine uptake in the diagnosis of thyroid disorders	K	KH	Y	Lecture, Small group discussion	Short notes/ Viva voce			
IM12.5	Elicit document and present an appropriate history that will establish the diagnosis cause of thyroid dysfunction and its severity	S	SH	Y	Bedside clinic	Skill assessment/ Short case			
IM12.6	Perform and demonstrate a systematic examination based on the history that will help establish the diagnosis and severity including systemic signs of thyrotoxicosis and hypothyroidism, palpation of the pulse for rate and rhythm abnormalities, neck palpation of the thyroid and lymph nodes and cardiovascular findings	S	SH	Y	Bed side clinic, DOAP session	Skill assessment			General Surgery
IM12.7	Demonstrate the correct technique to palpate the thyroid	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Surgery
IM12.8	Generate a differential diagnosis based on the clinical presentation and prioritise it based on the most likely diagnosis	K	KH	Y	Bedside clinic, small group discussion	Short case			General Surgery
IM12.9	Order and interpret diagnostic testing based on the clinical diagnosis including CBC, thyroid function tests and ECG and radio iodine uptake and scan	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Surgery
IM12.10	Identify atrial fibrillation, pericardial effusion and bradycardia on ECG	S	SH	Y	Bedside clinic, lab	Skill assessment			General Surgery
IM12.11	Interpret thyroid function tests in hypo and hyperthyroidism	S	SH	Y	Bedside clinic, lab	Skill assessment			General Surgery
IM12.12	Describe and discuss the iodisation programs of the government of India	K	KH	Y	Lecture, Bedside clinic	Short note		Community Medicine	
IM12.13	Describe the pharmacology, indications, adverse reaction, interactions of thyroxine and antithyroid drugs	K	KH	Y	Lecture, Small group discussion	Viva voce/ Short note		Pharmacology	General Surgery
IM12.14	Write and communicate to the patient appropriately a prescription for thyroxine based on age, sex, and clinical and biochemical status	S/C	SH	Y	Skill assessment	Skill assessment		Pharmacology	
IM12.15	Describe and discuss the indications of thionamide therapy, radio iodine therapy and surgery in the management of thyrotoxicosis	K	KH	Y	Bedside clinic, Small group discussion	Short note/ Viva voce		Pharmacology	General Surgery

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Common malignancies		Number of competencies: (19)			Number of procedures that require certification : (NIL)				
IM13.1	Describe the clinical epidemiology and inherited & modifiable risk factors for common malignancies in India	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology, Biochemistry	
IM13.2	Describe the genetic basis of selected cancers	K	K	N	Lecture, Small group discussion	Short note/ Viva voce		Pathology	
IM13.3	Describe the relationship between infection and cancers	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology, Microbiology	
IM13.4	Describe the natural history, presentation, course, complications and cause of death for common cancers	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology	
IM13.5	Describe the common issues encountered in patients at the end of life and principles of management	K	K	N	Lecture, Small group discussion	Short note/ Viva voce			
IM13.6	Describe and distinguish the difference between curative and palliative care in patients with cancer	K	K	N	Lecture, Small group discussion	Short note/ Viva voce		Pharmacology	
IM13.7	Elicit document and present a history that will help establish the aetiology of cancer and includes the appropriate risk factors, duration and evolution	S	K	Y	Bedside clinic	Skill assessment/ Short case			General Surgery
IM13.8	Perform and demonstrate a physical examination that includes an appropriate general and local examination that excludes the diagnosis, extent spread and complications of cancer	S	SH	Y	Bedside clinic	Skill assessment/ short case			General Surgery
IM13.9	Demonstrate in a mannequin the correct technique for performing breast exam, rectal examination and cervical examination and pap smear	S	K	Y	Bedside clinic	Skill assessment/ Short case		Human Anatomy	General Surgery
IM13.10	Generate a differential diagnosis based on the presenting symptoms and clinical features and prioritise based on the most likely diagnosis	S	K	Y	Bedside clinic	Skill assessment/ Short case			General Surgery
IM13.11	Order and interpret diagnostic testing based on the clinical diagnosis including CBC and stool occult blood and prostate specific antigen	S	K	Y	Bedside clinic	Skill assessment/ Short case			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM13.12	Describe the indications and interpret the results of Chest X Ray, mammogram, skin and tissue biopsies and tumor markers used in common cancers	K	KH	Y	Bedside clinic, Small group discussion	Short note/ Viva voce		Radiodiagnosis	
IM13.13	Describe and assess pain and suffering objectively in a patient with cancer	K	KH	Y	Bedside clinic, Small group discussion	Short note/ Viva voce		Pharmacology	General Surgery
IM13.14	Describe the indications for surgery, radiation and chemotherapy for common malignancies	K	KH	Y	Bedside clinic, Small group discussion	Short note/ Viva voce		Pharmacology	General Surgery
IM13.15	Describe the need, tests involved, their utility in the prevention of common malignancies	K	KH	Y	Bedside clinic, Small group discussion	Short note/ Viva voce		Pathology	
IM13.16	Demonstrate an understanding and needs and preferences of patients when choosing curative and palliative therapy	A/C	KH	Y	Bedside clinic, small group discussion	Short note/ Viva voce		AETCOM	
IM13.17	Describe and enumerate the indications, use, side effects of narcotics in pain alleviation in patients with cancer	K	KH	Y	Bedside clinic, Small group discussion	Short note/ Viva voce		Pharmacology	Anesthesiology
IM13.18	Describe and discuss the ethical and the medico legal issues involved in end of life care	K	KH	Y	Bedside clinic, Small group discussion	Short note/ Viva voce		AETCOM	
IM13.19	Describe the therapies used in alleviating suffering in patients at the end of life	K	KH	Y	Bedside clinic, Small group discussion	Short note/ Viva voce		AETCOM	
Topic: Obesity Number of competencies: (15) Number of procedures that require certification: (NIL)									
IM14.1	Define and measure obesity as it relates to the Indian population	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce			
IM14.2	Describe and discuss the aetiology of obesity including modifiable and non-modifiable risk factors and secondary causes	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology	
IM14.3	Describe and discuss the monogenic forms of obesity	K	K	N	Lecture, Small group discussion	Short note/ Viva voce		Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM14.4	Describe and discuss the impact of environmental factors including eating habits, food, work, environment and physical activity on the incidence of obesity	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology, Community Medicine	
IM14.5	Describe and discuss the natural history of obesity and its complications	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology	
IM14.6	Elicit and document and present an appropriate history that includes the natural history, dietary history, modifiable risk factors, family history, clues for secondary causes and motivation to lose weight	S	SH	Y	Bedside clinic, Skills lab	Skill assessment			
IM14.7	Perform, document and demonstrate a physical examination based on the history that includes general examination, measurement of abdominal obesity, signs of secondary causes and comorbidities	S	SH	Y	Bedside clinic, Skills lab	Skill assessment			
IM14.8	Generate a differential diagnosis based on the presenting symptoms and clinical features and prioritise based on the most likely diagnosis	S	SH	Y	Bedside clinic, Skills lab	Skill assessment/ Short note/ Viva voce			
IM14.9	Order and interpret diagnostic tests based on the clinical diagnosis including blood glucose, lipids, thyroid function tests etc.	S	SH	Y	Bedside clinic, Skills lab, Small group discussion	Skill assessment/ Short note/ Viva voce			
IM14.10	Describe the indications and interpret the results of tests for secondary causes of obesity	K	KH	Y	Bedside clinic, Skills lab, Small group discussion	Skill assessment/ Short note/ Viva voce			
IM14.11	Communicate and counsel patient on behavioural, dietary and lifestyle modifications	C	SH	Y	Bedside clinic, Skills lab	Skill assessment			
IM14.12	Demonstrate an understanding of patient's inability to adhere to lifestyle instructions and counsel them in a non - judgemental way	A/C	SH	Y	Bedside clinic, Skills lab	Skill assessment			
IM14.13	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy for obesity	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pharmacology	
IM14.14	Describe and enumerate the indications and side effects of bariatric surgery	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce			General Surgery

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM14.15	Describe and enumerate and educate patients, health care workers and the public on measures to prevent obesity and promote a healthy lifestyle	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce			
Topic: GI bleeding Number of competencies: (18) Number of procedures that require certification : (NIL)									
IM15.1	Enumerate, describe and discuss the aetiology of upper and lower GI bleeding	K	KH	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology	General Surgery
IM15.2	Enumerate, describe and discuss the evaluation and steps involved in stabilizing a patient who presents with acute volume loss and GI bleed	S	SH	Y	DOAP session, Small group discussion, Lecture	Written/ Viva voce/ Skill assessment		Pathology	General Surgery
IM15.3	Describe and discuss the physiologic effects of acute blood and volume loss	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology, Physiology	General Surgery
IM15.4	Elicit and document and present an appropriate history that identifies the route of bleeding, quantity, grade, volume loss, duration, etiology, comorbid illnesses and risk factors	S	SH	Y	Bedside clinic	Skill assessment			General Surgery
IM15.5	Perform, demonstrate and document a physical examination based on the history that includes general examination, volume assessment and appropriate abdominal examination	S	SH	Y	Bedside clinic, Skills lab	Skill assessment			General Surgery
IM15.6	Distinguish between upper and lower gastrointestinal bleeding based on the clinical features	S	KH	Y	Lecture, Small group discussion	Short note/ Viva voce			General Surgery
IM15.7	Demonstrate the correct technique to perform an anal and rectal examination in a mannequin or equivalent	S	SH	Y	DOAP session	Skill assessment			General Surgery
IM15.8	Generate a differential diagnosis based on the presenting symptoms and clinical features and prioritise based on the most likely diagnosis	S	SH	Y	Bedside clinic, Skills lab	Skill assessment/ Short note/ Viva voce			General Surgery
IM15.9	Choose and interpret diagnostic tests based on the clinical diagnosis including complete blood count, PT and PTT, stool examination, occult blood, liver function tests, H.pylori test.	S	SH	Y	Bedside clinic, DOAP session, Small group discussion	Skill assessment/ Short note/ Viva voce		Pathology	General Surgery

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM15.10	Enumerate the indications for endoscopy, colonoscopy and other imaging procedures in the investigation of Upper GI bleeding	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Surgery
IM15.11	Develop, document and present a treatment plan that includes fluid resuscitation, blood and blood component transfusion, and specific therapy for arresting blood loss	S	KH	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology	General Surgery
IM15.12	Enumerate the indications for whole blood, component and platelet transfusion and describe the clinical features and management of a mismatched transfusion	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology	General Surgery
IM15.13	Observe cross matching and blood / blood component transfusion	S	SH	Y	Bedside clinic	Short note/ Viva voce/ Skill assessment		Pathology	General Surgery
IM15.14	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy of pressors used in the treatment of Upper GI bleed	K	K	Y	Lecture, Small group discussion	Short note/Viva voce		Pharmacology	General Surgery
IM15.15	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy of acid peptic disease including Helicobacter pylori	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pharmacology, Microbiology	General Surgery
IM15.16	Enumerate the indications for endoscopic interventions and Surgery	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce			General Surgery
IM15.17	Determine appropriate level of specialist consultation	S	K	Y	Small group discussion				General Surgery
IM15.18	Counsel the family and patient in an empathetic non-judgmental manner on the diagnosis and therapeutic options	S	SH	Y	DOAP session	Skill assessment			General Surgery
Topic: Diarrheal disorder Number of competencies: (17) Number of procedures that require certification : (NIL)									
IM16.1	Describe and discuss the aetiology of acute and chronic diarrhea including infectious and non infectious causes	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Microbiology	
IM16.2	Describe and discuss the acute systemic consequences of diarrhea including its impact on fluid balance	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM16.3	Describe and discuss the chronic effects of diarrhea including malabsorption	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce			
IM16.4	Elicit and document and present an appropriate history that includes the natural history, dietary history, travel , sexual history and other concomitant illnesses	S	SH	Y	Bedside clinic, Skills lab	Skill assessment		Microbiology, Pathology	
IM16.5	Perform, document and demonstrate a physical examination based on the history that includes general examination, including an appropriate abdominal examination	S	SH	Y	Bedside clinic, Skills lab	Skill assessment			
IM16.6	Distinguish between diarrhea and dysentery based on clinical features	S	KH	Y	Lecture, Small group discussion	Short note/ Viva voce			
IM16.7	Generate a differential diagnosis based on the presenting symptoms and clinical features and prioritise based on the most likely diagnosis	S	SH	Y	Bedside clinic, Skills lab	Skill assessment/ short note/ Viva voce			
IM16.8	Choose and interpret diagnostic tests based on the clinical diagnosis including complete blood count, and stool examination	S	SH	Y	Bedside clinic, Skills lab, Small group discussion	Skill assessment/ Short note/ Viva voce		Microbiology, Pathology	
IM16.9	Identify common parasitic causes of diarrhea under the microscope in a stool specimen	S	SH	Y	DOAP session	Skill assessment		Microbiology	
IM16.10	Identify vibrio cholera in a hanging drop specimen	S	SH	Y	DOAP session	Skill Assessment		Microbiology	
IM16.11	Enumerate the indications for stool cultures and blood cultures in patients with acute diarrhea	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
IM16.12	Enumerate and discuss the indications for further investigations including antibodies, colonoscopy, diagnostic imaging and biopsy in the diagnosis of chronic diarrhea	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	General Surgery
IM16.13	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy for parasitic causes of diarrhea	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pharmacology, Microbiology	
IM16.14	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy for bacterial and viral diarrhea	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pharmacology, Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM16.15	Distinguish based on the clinical presentation Crohn's disease from Ulcerative Colitis	S	SH	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology	General Surgery
IM16.16	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy including immunotherapy	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pharmacology	
IM16.17	Describe and enumerate the indications for surgery in inflammatory bowel disease	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce			General Surgery
Topic: Headache Number of competencies: (14) Number of procedures that require certification : (NIL)									
IM17.1	Define and classify headache and describe the presenting features, precipitating factors, aggravating and relieving factors of various kinds of headache	K	KH	Y	Lecture, Small group discussion	Short note/ Viva voce		Human Anatomy	
IM17.2	Elicit and document and present an appropriate history including aura, precipitating aggravating and relieving factors, associated symptoms that help identify the cause of headaches	S	SH	Y	Bedside clinic, Small group discussion	Bedside clinic/ Skill assessment			
IM17.3	Classify migraine and describe the distinguishing features between classical and non classical forms of migraine	K	KH	Y	Bedside clinic, Small group discussion	Bedside clinic/ Skill assessment			
IM17.4	Perform and demonstrate a general neurologic examination and a focused examination for signs of intracranial tension including neck signs of meningitis	S	SH	Y	Bedside clinic, Small group discussion	Bedside clinic/ Skill assessment			
IM17.5	Generate document and present a differential diagnosis based on the clinical features, and prioritise the diagnosis based on the presentation	S	SH	Y	Bedside clinic, Small group discussion	Bedside clinic/ skill assessment			
IM17.6	Choose and interpret diagnostic testing based on the clinical diagnosis including imaging	S	SH	Y	Lecture, Small group discussion, Bedside clinic	Skill Assessment			
IM17.7	Enumerate the indications and describe the findings in the CSF in patients with meningitis	K	K	Y	Small group discussion, Bedside clinic	Skill Assessment		Microbiology, Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM17.8	Demonstrate in a mannequin or equivalent the correct technique for performing a lumbar puncture	S	SH	Y	DOAP session	Skill assessment		Microbiology, Pathology	
IM17.9	Interpret the CSF findings when presented with various parameters of CSF fluid analysis	S	SH	Y	Small group discussion, Bedside clinic	Skill assessment		Microbiology, Pathology	
IM17.10	Enumerate the indications for emergency care admission and immediate supportive care in patients with headache	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
IM17.11	Describe the indications, pharmacology, dose, side effects of abortive therapy in migraine	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM17.12	Describe the indications, pharmacology, dose, side effects of prophylactic therapy in migraine	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM17.13	Describe the pharmacology, dose, adverse reactions and regimens of drugs used in the treatment of bacterial, tubercular and viral meningitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM17.14	Counsel patients with migraine and tension headache on lifestyle changes and need for prophylactic therapy	A/C	SH	N	DOAP session	Skill Assessment		Pharmacology	Psychiatry
Topic: Cerebrovascular accident Number of competencies: (17) Number of procedures that require certification : (NIL)									
IM18.1	Describe the functional and the vascular anatomy of the brain	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
IM18.2	Classify cerebrovascular accidents and describe the aetiology, predisposing genetic and risk factors pathogenesis of hemorrhagic and non hemorrhagic stroke	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
IM18.3	Elicit and document and present an appropriate history including onset, progression, precipitating and aggravating relieving factors, associated symptoms that help identify the cause of the cerebrovascular accident	S	SH	Y	Bedside clinic	Skill assessment		Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM18.4	Identify the nature of the cerebrovascular accident based on the temporal evolution and resolution of the illness	K	KH	Y	Bedside clinic, Small group discussion	Skill Assessment			
IM18.5	Perform, demonstrate & document physical examination that includes general and a detailed neurologic examination as appropriate, based on the history	S	SH	Y	Bedside clinic, DOAP session	Skill Assessment			
IM18.6	Distinguish the lesion based on upper vs lower motor neuron, side, site and most probable nature of the lesion	K/S	SH	Y	Bedside clinic, DOAP session	Skill Assessment		Physiology	
IM18.7	Describe the clinical features and distinguish, based on clinical examination, the various disorders of speech	K/S	SH	N	Bedside clinic, DOAP session	Skill Assessment		Physiology	
IM18.8	Describe and distinguish, based on the clinical presentation, the types of bladder dysfunction seen in CNS disease	K	KH	Y	Small group discussion, Bedside clinic	Written/ Viva voce		Physiology	
IM18.9	Choose and interpret the appropriate diagnostic and imaging test that will delineate the anatomy and underlying cause of the lesion	S	KH	Y	Bedside clinic, DOAP session, Small group discussion	Written/ Viva voce/ Skill assessment		Radiodiagnosis	
IM18.10	Choose and interpret the appropriate diagnostic testing in young patients with a cerebrovascular accident (CVA)	S	SH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM18.11	Describe the initial supportive management of a patient presenting with a cerebrovascular accident (CVA)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM18.12	Enumerate the indications for and describe acute therapy of non hemorrhagic stroke including the use of thrombolytic agents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM18.13	Enumerate the indications for and describe the role of anti platelet agents in non hemorrhagic stroke	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM18.14	Describe the initial management of a hemorrhagic stroke	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM18.15	Enumerate the indications for surgery in a hemorrhagic stroke	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			General Surgery

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM18.16	Enumerate the indications describe and observe the multidisciplinary rehabilitation of patients with a CVA	S	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Physical Medicine & Rehabilitation
IM18.17	Counsel patient and family about the diagnosis and therapy in an empathetic manner	A/C	SH	Y	DOAP session	Skill assessment			
Topic: Movement disorders Number of competencies: (09) Number of procedures that require certification : (NIL)									
IM19.1	Describe the functional anatomy of the locomotor system of the brain	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology	
IM19.2	Classify movement disorders of the brain based on distribution, rhythm, repetition, exacerbating and relieving factors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM19.3	Elicit and document and present an appropriate history including onset, progression precipitating and aggravating relieving factors, associated symptoms that help identify the cause of the movement disorders	S	SH	Y	Bedside clinic	Skill assessment			
IM19.4	Perform, demonstrate and document a physical examination that includes a general examination and a detailed neurologic examination using standard movement rating scales	S	SH	Y	Bedside clinic	Skill assessment			
IM19.5	Generate document and present a differential diagnosis and prioritise based on the history and physical examination	S	SH	Y	Bedside clinic	Skill assessment			
IM19.6	Make a clinical diagnosis regarding on the anatomical location, nature and cause of the lesion based on the clinical presentation and findings	S	SH	Y	Bedside clinic	Skill assessment			
IM19.7	Choose and interpret diagnostic and imaging tests in the diagnosis of movement disorders	S	SH	Y	Bedside clinic, Small group session	Skill assessment/ Written/ Viva voce		Radiodiagnosis	
IM19.8	Discuss and describe the pharmacology, dose, side effects and interactions used in the drug therapy of Parkinson's syndrome	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM19.9	Enumerate the indications for use of surgery and botulinum toxin in the treatment of movement disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Surgery

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Envenomation		Number of competencies: (09)			Number of procedures that require certification : (NIL)				
IM20.1	Enumerate the local poisonous snakes and describe the distinguishing marks of each	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine, Pharmacology	
IM20.2	Describe, demonstrate in a volunteer or a mannequin and educate (to other health care workers / patients) the correct initial management of patient with a snake bite in the field	S	SH	Y	DOAP session	Skill assessment/ Written/ Viva voce		Forensic Medicine	
IM20.3	Describe the initial approach to the stabilisation of the patient who presents with snake bite	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine	
IM20.4	Elicit and document and present an appropriate history, the circumstance, time, kind of snake, evolution of symptoms in a patient with snake bite	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Forensic Medicine	
IM20.5	Perform a systematic examination, document and present a physical examination that includes general examination, local examination, appropriate cardiac and neurologic examination	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM20.6	Choose and interpret the appropriate diagnostic testing in patients with snake bites	S	SH	Y	Small group discussion	Written/ Viva voce			
IM20.7	Enumerate the indications and describe the pharmacology, dose, adverse reactions, hypersensitivity reactions of anti snake venom	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM20.8	Describe the diagnosis, initial approach stabilisation and therapy of scorpion envenomation	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM20.9	Describe the diagnosis initial approach stabilisation and therapy of bee sting allergy	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
Topic: Poisoning		Number of competencies: (08)			Number of procedures that require certification : (NIL)				
IM21.1	Describe the initial approach to the stabilisation of the patient who presents with poisoning	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM21.2	Enumerate the common plant poisons seen in your area and describe their toxicology, clinical features, prognosis and specific approach to detoxification	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine, Pharmacology	
IM21.3	Enumerate the common corrosives used in your area and describe their toxicology, clinical features, prognosis and approach to therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine, Pharmacology	
IM21.4	Enumerate the commonly observed drug overdose in your area and describe their toxicology, clinical features, prognosis and approach to therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine, Pharmacology	
IM21.5	Observe and describe the functions and role of a poison center in suspected poisoning	S	KH	Y	DOAP session	document in log book		Forensic Medicine, Pharmacology	
IM21.6	Describe the medico legal aspects of suspected suicidal or homicidal poisoning and demonstrate the correct procedure to write a medico legal report on a suspected poisoning	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		Forensic Medicine, Pharmacology	
IM21.7	Counsel family members of a patient with suspected poisoning about the clinical and medico legal aspects with empathy	A/C	SH	Y	DOAP session	Skill assessment		Forensic Medicine, Pharmacology	
IM21.8	Enumerate the indications for psychiatric consultation and describe the precautions to be taken in a patient with suspected suicidal ideation / gesture	K	KH	Y	DOAP session	Skill assessment		Forensic Medicine, Psychiatry	
Topic: Mineral, Fluid Electrolyte and Acid base Disorder Number of competencies: (13) Number of procedures that require certification : (NIL)									
IM22.1	Enumerate the causes of hypercalcemia and distinguish the features of PTH vs non PTH mediated hypercalcemia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
IM22.2	Describe the aetiology, clinical manifestations, diagnosis and clinical approach to primary hyperparathyroidism	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	General Surgery
IM22.3	Describe the approach to the management of hypercalcemia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
IM22.4	Enumerate the components and describe the genetic basis of the multiple endocrine neoplasia syndrome	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM22.5	Enumerate the causes and describe the clinical features and the correct approach to the diagnosis and management of the patient with hyponatremia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM22.6	Enumerate the causes and describe the clinical and laboratory features and the correct approach to the diagnosis and management of the patient with hyponatremia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM22.7	Enumerate the causes and describe the clinical and laboratory features and the correct approach to the diagnosis and management of the patient with hypokalemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM22.8	Enumerate the causes and describe the clinical and laboratory features and the correct approach to the diagnosis and management of the patient with hyperkalemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM22.9	Enumerate the causes and describe the clinical and laboratory features of metabolic acidosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology	
IM22.10	Enumerate the causes of describe the clinical and laboratory features of metabolic alkalosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology	
IM22.11	Enumerate the causes and describe the clinical and laboratory features of respiratory acidosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology	
IM22.12	Enumerate the causes and describe the clinical and laboratory features of respiratory alkalosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology	
IM22.13	Identify the underlying acid based disorder based on an ABG report and clinical situation	S	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology	
Topic: Nutritional and Vitamin Deficiencies Number of competencies: (05) Number of procedures that require certification: (NIL)									
IM23.1	Discuss and describe the methods of nutritional assessment in an adult and calculation of caloric requirements during illnesses	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM23.2	Discuss and describe the causes and consequences of protein caloric malnutrition in the hospital	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM23.3	Discuss and describe the aetiology, causes, clinical manifestations, complications, diagnosis and management of common vitamin deficiencies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM23.4	Enumerate the indications for enteral and parenteral nutrition in critically ill patients	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM23.5	Counsel and communicate to patients in a simulated environment with illness on an appropriate balanced diet	S	SH	Y	DOAP session	Skill assessment			
Topic: Geriatrics Number of competencies: (22) Number of procedures that require certification : (NIL)									
IM24.1	Describe and discuss the epidemiology, pathogenesis, clinical evolution, presentation and course of common diseases in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM24.2	Perform multidimensional geriatric assessment that includes medical, psycho-social and functional components	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Psychiatry	
IM24.3	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of acute confusional states	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM24.4	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of vascular events in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM24.5	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of depression in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
IM24.6	Describe and discuss the aetiopathogenesis causes, clinical presentation, difference in discussion presentation identification, functional changes, acute care, stabilization, management and rehabilitation of dementia in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			AETCOM

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM24.7	Describe and discuss the aetiopathogenesis,clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of personality changes in the elderly	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
IM24.8	Describe and discuss the aetiopathogenesis,clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of osteoporosis in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM24.9	Describe and discuss the aetiopathogenesis,clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of CVA in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM24.10	Describe and discuss the aetiopathogenesis,clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of COPD in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Respiratory Medicine
IM24.11	Describe and discuss the aetiopathogenesis,clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of the elderly undergoing surgery	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Anesthesiology, General Surgery
IM24.12	Describe and discuss the aetiopathogenesis,clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of degenerative joint disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
IM24.13	Describe and discuss the aetiopathogenesis,clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of falls in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics, Physical Medicine & Rehabilitation
IM24.14	Describe and discuss the aetiopathogenesis,clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of common fractures in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
IM24.15	Describe and discuss the aetiopathogenesis,clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of vision and visual loss in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Ophthalmology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM24.16	Describe and discuss the principles of physical and social rehabilitation, functional assessment, role of physiotherapy and occupational therapy in the management of disability in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics, Physical Medicine & Rehabilitation
IM24.17	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of hearing loss in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			ENT
IM24.18	Describe the impact of the demographic changes in ageing on the population	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
IM24.19	Enumerate and describe the social problems in the elderly including isolation, abuse, change in family structure and their impact on health.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
IM24.20	Enumerate and describe social interventions in the care of elderly including domiciliary discussion services, rehabilitation facilities, old age homes and state interventions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
IM24.21	Enumerate and describe ethical issues in the care of the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			AETCOM
IM24.22	Describe and discuss the aetiopathogenesis, clinical presentation, complications, assessment and management of nutritional disorders in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	
Topic: Miscellaneous Infections		Number of competencies: (13)			Number of procedures that require certification : (NIL)				
IM25.1	Describe and discuss the response and the influence of host immune status, risk factors and comorbidities on zoonotic diseases (e.g. Leptospirosis, Rabies) and non-febrile infectious disease (e.g. Tetanus)	K	K	Y	Lecture, Small group discussion	Written		Microbiology, Community Medicine	
IM25.2	Discuss and describe the common causes, pathophysiology and manifestations of these diseases	K	K	Y	Lecture, Small group discussion	Written		Microbiology, Community Medicine	
IM25.3	Describe and discuss the pathophysiology and manifestations of these diseases	K	KH	Y	Lecture, Small group discussion	Written		Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM25.4	Elicit document and present a medical history that helps delineate the aetiology of these diseases that includes the evolution and pattern of symptoms, risk factors, exposure through occupation and travel	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Community Medicine	
IM25.5	Perform a systematic examination that establishes the diagnosis and severity of presentation that includes: general skin, mucosal and lymph node examination, chest and abdominal examination (including examination of the liver and spleen)	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM25.6	Generate a differential diagnosis and prioritise based on clinical features that help distinguish between infective, inflammatory, malignant and rheumatologic causes	K	SH	Y	Bedside clinic, DOAP session	Written/ Viva voce			
IM25.7	Order and interpret diagnostic tests based on the differential diagnosis including: CBC with differential, blood biochemistry, peripheral smear, urinary analysis with sediment, Chest X ray, blood and urine cultures, sputum gram stain and cultures, sputum AFB and cultures, CSF analysis, pleural and body fluid analysis, stool routine and culture and QBC	K	SH	Y	Bedside clinic, Skill assessment	Skill assessment		Pathology, Microbiology	
IM25.8	Enumerate the indications for use of newer techniques in the diagnosis of these infections	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			
IM25.9	Assist in the collection of blood and other specimen cultures	S	SH	Y	DOAP session	Log book documentation		Microbiology	
IM25.10	Develop and present an appropriate diagnostic plan based on the clinical presentation, most likely diagnosis in a prioritised and cost effective manner	K	KH	Y	Bedside clinic, Skill assessment	Skill assessment			
IM25.11	Develop an appropriate empiric treatment plan based on the patient's clinical and immune status pending definitive diagnosis	C	SH	Y	DOAP session	Skill assessment		Microbiology, Pharmacology	
IM25.12	Communicate to the patient and family the diagnosis and treatment of identified infection	C	SH	Y	DOAP session	Skill assessment		AETCOM	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM25.13	Counsel the patient and family on prevention of various infections due to environmental issues	C	SH	Y	DOAP session	Skill assessment		Community Medicine, General Medicine	
Topic: The role of the physician in the community Number of competencies: (49) Number of procedures that require certification : (NIL)									
IM26.1	Enumerate and describe professional qualities and roles of a physician	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.2	Describe and discuss the commitment to lifelong learning as an important part of physician growth	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.3	Describe and discuss the role of non maleficence as a guiding principle in patient care	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.4	Describe and discuss the role of autonomy and shared responsibility as a guiding principle in patient care	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.5	Describe and discuss the role of beneficence of a guiding principle in patient care	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.6	Describe and discuss the role of a physician in health care system	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.7	Describe and discuss the role of justice as a guiding principle in patient care	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.8	Identify discuss medicolegal, socioeconomic and ethical issues as it pertains to organ donation	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.9	Identify, discuss and defend medicolegal, sociocultural, economic and ethical issues as it pertains to rights, equity and justice in access to health care	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.10	Identify, discuss and defend medicolegal, socio-cultural and ethical issues as it pertains to confidentiality in patient care	K	KH	Y	Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM26.11	Identify, discuss and defend medicolegal, socio-cultural and ethical issues as it pertains to patient autonomy, patient rights and shared responsibility in health care	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.12	Identify, discuss and defend medicolegal, socio-cultural and ethical issues as it pertains to decision making in health care including advanced directives and surrogate decision making	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.13	Identify, discuss and defend medicolegal, socio-cultural and ethical issues as it pertains to decision making in emergency care including situations where patients do not have the capability or capacity to give consent	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.14	Identify, discuss and defend medicolegal, socio-cultural and ethical issues as it pertains to research in human subjects	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.15	Identify, discuss and defend, medicolegal,socio-cultural and ethical issues as they pertain to consent for surgical procedures	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.16	Identify, discuss and defend medicolegal, socio-cultural, professional and ethical issues as it pertains to the physician patient relationship (including fiduciary duty)	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.17	Identify, discuss physician's role and responsibility to society and the community that she/ he serves	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.18	Identify, discuss and defend medicolegal, socio-cultural, professional and ethical issues in physician- industry relationships	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.19	Demonstrate ability to work in a team of peers and superiors	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM26.20	Demonstrate ability to communicate to patients in a patient, respectful, non threatening, non judgemental and empathetic manner	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM26.21	Demonstrate respect to patient privacy	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM26.22	Demonstrate ability to maintain confidentiality in patient care	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
IM26.23	Demonstrate a commitment to continued learning	S	SH	Y	Small group discussion	Skill assessment/ Viva voce			
IM26.24	Demonstrate respect in relationship with patients, fellow team members, superiors and other health care workers	S	SH	Y	Bedside clinic, DOAP session	Skill assessment/ Viva voce			
IM26.25	Demonstrate responsibility and work ethics while working in the health care team	S	SH	Y	Bedside clinic, DOAP session	Skill assessment/ Viva voce			
IM26.26	Demonstrate ability to maintain required documentation in health care (including correct use of medical records)	S	SH	Y	Small group discussion	Skill assessment/ Viva voce			
IM26.27	Demonstrate personal grooming that is adequate and appropriate for health care responsibilities	S	SH	Y	Small group discussion	Skill assessment			
IM26.28	Demonstrate adequate knowledge and use of information technology that permits appropriate patient care and continued learning	S	SH	Y	Small group discussion	Skill assessment/ Viva voce			
IM26.29	Communicate diagnostic and therapeutic options to patient and family in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment/ Viva voce			
IM26.30	Communicate care options to patient and family with a terminal illness in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment/ Viva voce			
IM26.31	Demonstrate awareness of limitations and seeks help and consultations appropriately	S	SH	Y	Bedside clinic, DOAP session	Skill assessment/ Viva voce			
IM26.32	Demonstrate appropriate respect to colleagues in the profession	S	SH	N	Small group discussion	Skill assessment/ Viva voce			
IM26.33	Demonstrate an understanding of the implications and the appropriate procedures and response to be followed in the event of medical errors	S	SH	N	Small group discussion	Skill assessment/ Viva voce			
IM26.34	Identify conflicts of interest in patient care and professional relationships and describe the correct response to these conflicts	S	SH	Y	Small group discussion	Skill assessment/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM26.35	Demonstrate empathy in patient encounters	S	SH	Y	Bedside clinic, DOAP session	Skill assessment/ Viva voce			
IM26.36	Demonstrate ability to balance personal and professional priorities	S	SH	N	Small group discussion	Skill assessment/ Viva voce			
IM26.37	Demonstrate ability to manage time appropriately	S	SH	Y	Small group discussion	Skill assessment/ Viva voce			
IM26.38	Demonstrate ability to form and function in appropriate professional networks	S	SH	N	Small group discussion	Skill assessment/ Viva voce			
IM26.39	Demonstrate ability to pursue and seek career advancement	S	SH	N	Small group discussion	Skill assessment/ Viva voce			
IM26.40	Demonstrate ability to follow risk management and medical error reduction practices where appropriate	S	SH	N	Small group discussion	Skill assessment/ Viva voce			
IM26.41	Demonstrate ability to work in a mentoring relationship with junior colleagues	S	SH	N	Small group discussion	Skill assessment/ Viva voce			
IM26.42	Demonstrate commitment to learning and scholarship	S	SH	N	Small group discussion	Skill assessment/ Viva voce			
IM26.43	Identify, discuss and defend medicolegal, sociocultural, economic and ethical issues as they pertain to in vitro fertilisation donor insemination and surrogate motherhood	K	KH	N	Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
IM26.44	Identify, discuss and defend medicolegal, socio-cultural professional and ethical issues pertaining to medical negligence	K	KH	N	Small group discussion	Written/ Viva voce			
IM26.45	Identify, discuss and defend medicolegal, socio-cultural professional and ethical issues pertaining to malpractice	K	KH	N	Small group discussion	Written/ Viva voce			
IM26.46	Identify, discuss and defend medicolegal, socio-cultural professional and ethical issues in dealing with impaired physicians	K	KH	N	Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
IM26.47	Identify, discuss and defend medicolegal, socio-cultural and ethical issues as they pertain to refusal of care including do not resuscitate and withdrawal of life support	K	KH	Y	Small group discussion	Written/ Viva voce			
IM26.48	Demonstrate altruism	S	SH	Y	Small group discussion	Written/ Viva voce			
IM26.49	Administer informed consent and appropriately address patient queries to a patient being enrolled in a research protocol in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Written/ Viva voce			
	Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation								

Integration

Human Anatomy									
AN5.6	Describe the concept of anastomoses and collateral circulation with significance of end-arteries	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN7.5	Describe principles of sensory and motor innervation of muscles	K	KH	N	Lecture	Written		General Medicine	Physiology
AN7.6	Describe concept of loss of innervation of a muscle with its applied anatomy	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
AN20.8	Identify & demonstrate palpation of femoral, popliteal, post tibial, anti tibial & dorsalis pedis blood vessels in a simulated environment	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Viva voce/ Skill assessment		General Medicine	
AN20.9	Identify & demonstrate Palpation of vessels (femoral, popliteal,dorsalis pedis,post tibial), Mid inguinal point, Surface projection of: femoral nerve, Saphenous opening, Sciatic, tibial, common peroneal & deep peroneal nerve, great and small saphenous veins	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Viva voce/ Skill assessment		General Medicine, General Surgery	
AN22.4	Describe anatomical basis of ischaemic heart disease	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN22.7	Mention the parts, position and arterial supply of the conducting system of heart	K	KH	Y	Lecture	Written		General Medicine	Physiology
AN24.1	Mention the blood supply, lymphatic drainage and nerve supply of pleura, extent of pleura and describe the pleural recesses and their applied anatomy	K	KH	Y	Practical, Lecture	Written/ Viva voce		General Medicine	Physiology
AN24.2	Identify side, external features and relations of structures which form root of lung & bronchial tree and their clinical correlate	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Medicine	Physiology
AN24.3	Describe a bronchopulmonary segment	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN25.3	Describe fetal circulation and changes occurring at birth	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN25.4	Describe embryological basis of: 1) atrial septal defect, 2)ventricular septal defect, 3) Fallot's tetralogy & 4) tracheo-oesophageal fistula	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Physiology
AN25.5	Describe developmental basis of congenital anomalies, transposition of great vessels, dextrocardia, patent ductus arteriosus and coarctation of aorta	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Physiology
AN25.7	Identify structures seen on a plain x-ray chest (PA view)	K/S	SH	Y	Practical, DOAP session	Written/ Viva voce		Radiodiagnosis, General Medicine	
AN25.8	Identify and describe in brief a barium swallow	K/S	SH	N	Practical, DOAP session	Written/ Viva voce		Radiodiagnosis, General Medicine	
AN25.9	Demonstrate surface marking of lines of pleural reflection, Lung borders and fissures, Trachea, Heart borders, Apex beat & Surface projection of valves of heart	K/S	SH	Y	Practical	Viva voce/ Skill assessment		General Medicine, Pediatrics	Physiology
AN28.7	Explain the anatomical basis of facial nerve palsy	K	KH	Y	Lecture	Written		General Medicine	
AN50.3	Describe lumbar puncture (site, direction of the needle, structures pierced during the lumbar puncture)	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN56.1	Describe & identify various layers of meninges with its extent & modifications	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Medicine	
AN56.2	Describe circulation of CSF with its applied anatomy	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN57.4	Enumerate ascending & descending tracts at mid thoracic level of spinal cord	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN57.5	Describe anatomical basis of syringomyelia	K	KH	N	Lecture	Written		General Medicine	Physiology
AN58.4	Describe anatomical basis & effects of medial & lateral medullary syndrome	K	KH	N	Lecture	Written		General Medicine	Physiology
AN60.3	Describe anatomical basis of cerebellar dysfunction	K	KH	N	Lecture	Written		General Medicine	Physiology
AN61.3	Describe anatomical basis & effects of Benedict's and Weber's syndrome	K	KH	N	Lecture	Written		General Medicine	Physiology
AN62.2	Describe & demonstrate surfaces, sulci, gyri, poles, & functional areas of cerebral hemisphere	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Medicine	Physiology
AN62.3	Describe the white matter of cerebrum	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN62.5	Describe boundaries, parts, gross relations, major nuclei and connections of dorsal thalamus, hypothalamus, epithalamus, metathalamus and subthalamus	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Physiology
AN62.6	Describe & identify formation, branches & major areas of distribution of circle of Willis	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Medicine	Physiology
AN74.1	Describe the various modes of inheritance with examples	K	KH	Y	Lecture	Written		General Medicine, Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN74.2	Draw pedigree charts for the various types of inheritance & give examples of diseases of each mode of inheritance	K	KH	Y	Lecture	Written		General Medicine, Pediatrics	
AN74.3	Describe multifactorial inheritance with examples	K	KH	Y	Lecture	Written		General Medicine	
AN74.4	Describe the genetic basis & clinical features of Achondroplasia, Cystic Fibrosis, Vitamin D resistant rickets, Hemophilia, Duchene's muscular dystrophy & Sickle cell anaemia	K	KH	N	Lecture	Written		General Medicine, Pediatrics	
Physiology									
PY3.12	Explain the gradation of muscular activity	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PY3.13	Describe muscular dystrophy: myopathies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Human Anatomy
PY4.9	Discuss the physiology aspects of: peptic ulcer, gastro-oesophageal reflux disease, vomiting, diarrhoea, constipation, Adynamic ileus, Hirschsprung's disease	S	SH	Y	Lecture, Small group discussion	Practical/ Viva voce		General Medicine	Biochemistry
PY5.5	Describe the physiology of electrocardiogram (E.C.G), its applications and the cardiac axis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PY5.6	Describe abnormal ECG, arrhythmias, heart block and myocardial Infarction	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Human Anatomy
PY5.10	Describe & discuss regional circulation including microcirculation, lymphatic circulation, coronary, cerebral, capillary, skin, foetal, pulmonary and splanchnic circulation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PY5.13	Record and interpret normal ECG in a volunteer or simulated environment	S	SH	Y	DOAP sessions	Practical/OSPE/Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PY5.16	Record Arterial pulse tracing using finger plethysmography in a volunteer or simulated environment	S	SH	N	DOAP sessions, Computer assisted learning methods	Practical/OSPE/Viva voce		General Medicine	
PY7.7	Describe artificial kidney, dialysis and renal transplantation	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
PY11.14	Demonstrate Basic Life Support in a simulated environment	S	SH	Y	DOAP sessions	OSCE		General Medicine Anaesthesiology	
Biochemistry									
BI2.4	Describe and discuss enzyme inhibitors as poisons and drugs, therapeutic enzymes and the clinical utility of various serum enzymes as markers of pathological conditions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	
BI2.5	Describe and discuss the clinical utility of various serum enzymes as markers of pathological conditions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	
BI2.6	Discuss use of enzymes in laboratory investigations (Enzyme-based assays)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	
BI2.7	Interpret laboratory results of enzyme activities & describe the clinical utility of various enzymes as markers of pathological conditions	K	KH	Y	Lecture, Small group discussion, DOAP sessions	Written/ Viva voce		Pathology, General Medicine	
BI3.4	Define and differentiate the pathways of carbohydrate metabolism (glycolysis, gluconeogenesis, glycogen metabolism, HMP shunt)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI3.5	Describe and discuss the regulation, functions and integration of carbohydrate along with associated diseases/disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI3.8	Discuss and interpret laboratory results of analytes associated with metabolism of carbohydrates	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	
BI3.9	Discuss the mechanism and significance of blood glucose regulation in health and disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
BI3.10	Interpret the results of blood glucose levels and other laboratory investigations related to disorders of carbohydrate metabolism	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI4.1	Describe and discuss main classes of lipids (Essential/non-essential fatty acids, cholesterol and hormonal steroids, triglycerides, major phospholipids and sphingolipids) relevant to human system and their major functions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI4.2	Describe the processes involved in digestion and absorption of dietary lipids and also the key features of their metabolism	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI4.3	Explain the regulation of lipoprotein metabolism & associated disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI4.4	Describe the structure and functions of lipoproteins, their functions, interrelations & relations with atherosclerosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI4.5	Interpret laboratory results of analytes associated with metabolism of lipids	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI4.6	Describe the therapeutic uses of prostaglandins and inhibitors of eicosanoid synthesis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI4.7	Interpret laboratory results of analytes associated with metabolism of lipids	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI5.2	Describe and discuss functions of proteins and structure-function relationships in relevant areas e.g., hemoglobin and selected hemoglobinopathies	K	KH	Y	Lecture, Small group discussion	Viva voce/ Skill assessment		Pathology, General Medicine	Physiology
BI5.5	Interpret laboratory results of analytes associated with metabolism of proteins	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI6.1	Discuss the metabolic processes that take place in specific organs in the body in the fed and fasting states	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI6.4	Discuss the laboratory results of analytes associated with gout & Lesch Nyhan syndrome	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
BI6.5	Describe the biochemical role of vitamins in the body and explain the manifestations of their deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI6.7	Describe the processes involved in maintenance of normal pH, water & electrolyte balance of body fluids and the derangements associated with these	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Physiology
BI6.8	Discuss and interpret results of Arterial Blood Gas (ABG) analysis in various disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI6.9	Describe the functions of various minerals in the body, their metabolism and homeostasis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Physiology
BI6.10	Enumerate and describe the disorders associated with mineral metabolism	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI6.11	Describe the functions of haem in the body and describe the processes involved in its metabolism and describe porphyrin metabolism	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology
BI6.12	Describe the major types of haemoglobin and its derivatives found in the body and their physiological/ pathological relevance	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology
BI6.13	Describe the functions of the kidney, liver, thyroid and adrenal glands	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
BI6.14	Describe the tests that are commonly done in clinical practice to assess the functions of these organs (kidney, liver, thyroid and adrenal glands)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
BI6.15	Describe the abnormalities of kidney, liver, thyroid and adrenal glands.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, General Medicine	Physiology, Human Anatomy
BI7.4	Describe applications of recombinant DNA technology, PCR in the diagnosis and treatment of diseases with genetic basis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics, General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
BI7.7	Describe the role of oxidative stress in the pathogenesis of conditions such as cancer, complications of diabetes mellitus and atherosclerosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pathology	
BI8.1	Discuss the importance of various dietary components and explain importance of dietary fibre	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics, Pathology	
BI8.2	Describe the types and causes of protein energy malnutrition and its effects	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics, Pathology	
BI8.3	Provide dietary advice for optimal health in childhood and adult, in disease conditions like diabetes mellitus, coronary artery disease and in pregnancy.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI8.4	Describe the causes (including dietary habits), effects and health risks associated with being overweight/ obesity	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pathology	
BI8.5	Summarize the nutritional importance of commonly used items of food including fruits and vegetables (macro-molecules & its importance)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, General Medicine, Pediatrics	
BI9.2	Discuss the involvement of ECM components in health and disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI10.4	Describe & discuss innate and adaptive immune responses, self/non-self recognition and the central role of T-helper cells in immune responses	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pathology	Physiology
BI11.4	Perform urine analysis to estimate and determine normal and abnormal constituents	S	P	Y	Lecture, Small group discussion	Skill assessment	1	General Medicine	Physiology
BI11.5	Describe screening of urine for inborn errors & describe the use of paper chromatography	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
BI11.17	Explain the basis and rationale of biochemical tests done in the following conditions: - diabetes mellitus, - dyslipidemia, - myocardial infarction, - renal failure, gout, - proteinuria, - nephrotic syndrome, - edema, - jaundice, - liver diseases, pancreatitis, disorders of acid- base balance, thyroid disorders.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine Pathology	
BI11.22	Calculate albumin: globulin (AG) ratio and creatinine clearance	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI11.23	Calculate energy content of different food Items, identify food items with high and low glycemic index and explain the importance of these in the diet	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
BI11.24	Enumerate advantages and/or disadvantages of use of unsaturated, saturated and trans fats in food.	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
BI1.26	Calculate albumin: globulin (AG) ratio and creatinine clearance	S	SH	Y	Lecture, Small group discussion	Skill assessment		General Medicine	
BI1.27	Calculate energy content of different food Items, identify food items with high and low glycemic index and explain the importance of these in the diet	S	SH	N	Lecture, Small group discussion	Skill assessment		General Medicine	
BI1.28	Enumerate advantages and/or disadvantages of use of unsaturated, saturated and trans fats in food	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
Pathology									
PA6.1	Define and describe edema its types pathogenesis and clinical correlations	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA9.4	Define autoimmunity. Enumerate autoimmune disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PA9.5	Define and describe the pathogenesis of systemic lupus erythematosus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA9.6	Define and describe the pathogenesis and pathology of HIV and AIDS	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA9.7	Define and describe the pathogenesis of other common autoimmune diseases	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA10.1	Define and describe the pathogenesis and pathology of malaria	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA10.2	Define and describe the pathogenesis and pathology of cysticercosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA10.3	Define and describe the pathogenesis and pathology of leprosy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA10.4	Define and describe the pathogenesis and pathology of common bacterial, viral, protozoal and helminthic diseases	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA12.3	Describe the pathogenesis of obesity and its consequences	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA13.1	Describe hematopoiesis and extramedullary hematopoiesis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA13.2	Describe the role of anticoagulants in hematology	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA13.3	Define and classify anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA13.4	Enumerate and describe the investigation of anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA13.5	Perform, Identify and describe the peripheral blood picture in anemia	S	SH	Y	DOAP session	Skill assessment		General Medicine	
PA14.2	Describe the etiology, investigations and differential diagnosis of microcytic hypochromic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PA14.3	Identify and describe the peripheral smear in microcytic anemia	S	SH	Y	DOAP session	Skill assessment		General Medicine	
PA15.1	Describe the metabolism of Vitamin B12 and the etiology and pathogenesis of B12 deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA15.2	Describe the laboratory investigations of macrocytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA15.4	Enumerate the differences and describe the etiology and distinguishing features of megaloblastic and non-megaloblastic macrocytic anemia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA16.1	Define and classify hemolytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA16.2	Describe the pathogenesis and clinical features and hematologic indices of hemolytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA16.3	Describe the pathogenesis, features, hematologic indices and peripheral blood picture of sickle cell anemia and thalassemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA16.4	Describe the etiology pathogenesis, hematologic indices and peripheral blood picture of Acquired hemolytic anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA16.5	Describe indices and peripheral blood smear	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA 17.1	Enumerate the etiology, pathogenesis and findings in aplastic anemia	K	K	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA17.2	Enumerate the indications and describe the findings in bone marrow aspiration and biopsy	K	K	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA19.6	Enumerate and differentiate the causes of splenomegaly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	
PA21.3	Differentiate platelet from clotting disorders based on the clinical and hematologic features	S	SH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PA21.4	Define and describe disseminated intravascular coagulation, its laboratory findings and diagnosis of disseminated intravascular coagulation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA21.5	Define and describe disseminated intravascular coagulation its laboratory findings and diagnosis of Vitamin K deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA22.4	Enumerate blood components and describe their clinical uses	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	
PA22.6	Describe transfusion reactions and enumerate the steps in the investigation of a transfusion reaction	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA24.2	Describe the etiology, pathogenesis, pathology, microbiology, clinical and microscopic features of peptic ulcer disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA24.3	Describe and identify the microscopic features of peptic ulcer	S	SH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA25.1	Describe bilirubin metabolism, enumerate the etiology and pathogenesis of jaundice, distinguish between direct and indirect hyperbilirubinemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, General Medicine	
PA25.2	Describe the pathophysiology and pathologic changes seen in hepatic failure and their clinical manifestations, complications and consequences	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	
PA25.3	Describe the etiology and pathogenesis of viral and toxic hepatitis: distinguish the causes of hepatitis based on the clinical and laboratory features. Describe the pathology, complications and consequences of hepatitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA25.4	Describe the pathophysiology, pathology and progression of alcoholic liver disease including cirrhosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	
PA25.5	Describe the etiology, pathogenesis and complications of portal hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PA25.6	Interpret a liver function and viral hepatitis serology panel. Distinguish obstructive from non obstructive jaundice based on clinical features and liver function tests	S	P	Y	DOAP session	Skill assessment	1	General Medicine	
PA26.1	Define and describe the etiology, types, pathogenesis, stages, morphology and complications of pneumonia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA26.2	Describe the etiology, gross and microscopic appearance and complications of lung abscess	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA26.3	Define and describe the etiology, types, pathogenesis, stages, morphology and complications and evaluation of Obstructive airway disease (OAD) and bronchiectasis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	Microbiology
PA26.4	Define and describe the etiology, types, pathogenesis, stages, morphology microscopic appearance and complications of tuberculosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA26.5	Define and describe the etiology, types, exposure, environmental influence, pathogenesis, stages, morphology, microscopic appearance and complications of Occupational lung disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Community Medicine	
PA26.6	Define and describe the etiology, types, exposure, genetics environmental influence, pathogenesis, stages, morphology, microscopic appearance,metastases and complications of tumors of the lung and pleura	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA26.7	Define and describe the etiology, types, exposure, genetics environmental influence, pathogenesis, morphology, microscopic appearance and complications of mesothelioma	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Community Medicine	
PA27.1	Distinguish arteriosclerosis from atherosclerosis. Describe the pathogenesis and pathology of various causes and types of arteriosclerosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA27.2	Describe the etiology, dynamics, pathology types and complications of aneurysms including aortic aneurysms	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PA27.3	Describe the etiology, types, stages pathophysiology pathology and complications of heart failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Physiology	
PA27.4	Describe the etiology, pathophysiology, pathology, gross and microscopic, features, criteria and complications of rheumatic fever	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA27.5	Describe the epidemiology, risk factors, etiology, pathophysiology, pathology, presentations, gross and microscopic, features, diagnostic tests and complications of ischemic heart disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA27.6	Describe the etiology, pathophysiology, pathology, gross and microscopic, features diagnosis and complications of infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA27.7	Describe the etiology, pathophysiology, pathology, gross and microscopic, features diagnosis and complications of pericarditis and pericardial effusion	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA27.8	Interpret abnormalities in cardiac function testing in acute coronary syndromes	S	SH	Y	DOAP session	Skill Assessment		Physiology, General Medicine	
PA27.9	Classify and describe the etiology, types, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of cardiomyopathies	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Physiology	
PA27.10	Describe the etiology, pathophysiology, pathology features and complications of syphilis on the cardiovascular system	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
PA28.3	Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings, progression and complications of acute renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA28.4	Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings progression and complications of chronic renal failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PA28.5	Define and classify glomerular diseases. Enumerate and describe the etiology, pathogenesis, mechanisms of glomerular injury, pathology, distinguishing features and clinical manifestations of glomerulonephritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA28.6	Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of IgA nephropathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA28.7	Enumerate and describe the findings in glomerular manifestations of systemic disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA28.8	Enumerate and classify diseases affecting the tubular interstitium	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA28.9	Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of acute tubular necrosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA28.11	Define classify and describe the etiology, pathogenesis pathology, laboratory, urinary findings, distinguishing features, progression and complications of vascular disease of the kidney	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA28.12	Define classify and describe the genetics, inheritance etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features, progression and complications of cystic disease of the kidney	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics	
PA28.15	Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of thrombotic angiopathies	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA31.4	Enumerate and describe the etiology, hormonal dependency and pathogenesis of gynecomastia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics, General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PA32.1	Enumerate, classify and describe the etiology, pathogenesis, pathology and iodine dependency of thyroid swellings	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology, General Medicine, General Surgery	
PA32.2	Describe the etiology, cause, iodine dependency, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.3	Describe the etiology, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis/ hypothyroidism	K	KH	Y	Lecture, Small group	Written/ Viva voce		Physiology, General Medicine	
PA32.4	Classify and describe the epidemiology, etiology, pathogenesis, pathology, clinical laboratory features, complications and progression of diabetes mellitus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.5	Describe the etiology, genetics, pathogenesis, manifestations, laboratory and morphologic features of hyperparathyroidism	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.7	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of adrenal insufficiency	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.8	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of Cushing's syndrome	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PA32.9	Describe the etiology, pathogenesis, manifestations, laboratory and morphologic features of adrenal neoplasms	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology, General Medicine, General Surgery	
PA33.5	Classify and describe the etiology, immunology, pathogenesis, manifestations, radiologic and laboratory features, diagnostic criteria and complications of rheumatoid arthritis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PA35.1	Describe the etiology, types and pathogenesis, differentiating factors, CSF findings in meningitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PA35.3	Identify the etiology of meningitis based on given CSF parameters	S	P	Y	DOAP session	Skill Assessment	1	General Medicine	Microbiology
Microbiology									
MI2.1	Describe the etiologic agents in rheumatic fever and their diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI2.2	Describe the classification, etio-pathogenesis, clinical features and discuss the diagnostic modalities of Infective endocarditis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI2.3	Identify the microbial agents causing Rheumatic heart disease & infective Endocarditis	S	SH	Y	DOAP session	Skill assessment		General Medicine	Pathology
MI2.4	List the common microbial agents causing anemia. Describe the morphology, mode of infection and discuss the pathogenesis, clinical course, diagnosis and prevention and treatment of the common microbial agents causing Anemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI2.5	Describe the etio-pathogenesis and discuss the clinical evolution and the laboratory diagnosis of kala-azar, malaria, filariasis and other common parasites prevalent in India	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI2.6	Identify the causative agent of malaria and filariasis	K/S	SH	Y	DOAP session	Skill assessment		General Medicine	
MI2.7	Describe the epidemiology, the etio- pathogenesis evolution complications, opportunistic infections, diagnosis prevention and the principles of management of HIV	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI3.1	Enumerate the microbial agents causing diarrhea and dysentery. Describe the epidemiology, morphology, pathogenesis, clinical features, and diagnostic modalities of these agents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Paediatrics	Pathology
MI3.2	Identify the common etiologic agents of diarrhea and dysentery	S	SH	Y	DOAP session	Skill assessment		General Medicine, Paediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
MI3.3	Describe the enteric fever pathogens and discuss the evolution of the clinical course, the laboratory diagnosis of the diseases caused by them	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Pathology
MI3.4	Identify the different modalities for diagnosis of enteric fever. Choose the appropriate test related to the duration of illness	S	KH	Y	DOAP session	Skill assessment		General Medicine	Pathology
MI3.5	Enumerate the causative agents of food poisoning and discuss the pathogenesis, clinical course and laboratory diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology
MI3.6	Describe the etio-pathogenesis of Acid peptic disease (APD) and the clinical course. Discuss the diagnosis and management of the causative agent of APD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Pathology
MI3.7	Describe the epidemiology, the etio- pathogenesis and discuss the viral markers in the evolution of Viral hepatitis. Discuss the modalities in the diagnosis, and prevention of viral hepatitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
MI3.8	Choose the appropriate laboratory test in the diagnosis of viral hepatitis	K	KH	Y	Small group discussion, Case discussion	Written/ Viva voce/ OSPE		General Medicine	Pathology
MI4.1	Enumerate the microbial agents causing anaerobic infections. Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of anaerobic infections	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
MI5.1	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of meningitis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Paediatrics	Pathology
MI5.2	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of encephalitis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Paediatrics	Pathology
MI5.3	Identify the microbial agents causing meningitis	S	SH	Y	DOAP session	Skill assessment		General Medicine, Paediatrics	
MI6.1	Describe the etio-pathogenesis, laboratory diagnosis and prevention of Infections of upper and lower respiratory tract	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
MI6.2	Identify the common etiologic agents of upper respiratory tract infections (Gram Stain)	S	P	Y	DOAP session	Skill assessment	3	General Medicine	
MI6.3	Identify the common etiologic agents of lower respiratory tract infections (Gram Stain & Acid fast stain).	S	P	Y	DOAP session	Skill assessment	3	General Medicine	
MI7.3	Describe the etio-pathogenesis, clinical features, the appropriate method for specimen collection, and discuss the laboratory diagnosis of Urinary tract infections	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
MI8.1	Enumerate the microbial agents and their vectors causing Zoonotic diseases. Describe the morphology, mode of transmission, pathogenesis and discuss the clinical course, laboratory diagnosis and prevention	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
MI8.2	Describe the etio-pathogenesis of opportunistic infections (OI) and discuss the factors contributing to the occurrence of OI, and the laboratory diagnosis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Pathology
MI8.3	Describe the role of oncogenic viruses in the evolution of virus associated malignancy	K	KH	Y	Lecture	Written		General Medicine	Pathology
MI8.4	Describe the etiologic agents of emerging Infectious diseases. Discuss the clinical course and diagnosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Community Medicine	
MI8.5	Define Healthcare Associated Infections (HAI) and enumerate it types. Discuss the factors that contribute to the development of HAI and the methods for prevention	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Community Medicine	
Pharmacology									
PH1.12	Calculate the dosage of drugs using appropriate formulae for an individual patient, including children, elderly and patient with renal dysfunction	K/S	SH	Y	Lecture, practical	Written/ Viva voce		Pediatrics, General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PH1.16	Describe mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs which act by modulating autacoids, including: Anti-histaminics, 5-HT modulating drugs, NSAIDs, Drugs for gout, Anti-rheumatic drugs, drugs for migraine	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
PH1.21	Describe the symptoms and management of methanol and ethanol poisonings	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
PH1.25	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs acting on blood, like anticoagulants, antiplatelets, fibrinolytics, plasma expanders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PH1.26	Describe mechanisms of action, types, doses, side effects, indications and contraindications of the drugs modulating the renin angiotensin and aldosterone system	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, General Medicine	
PH1.27	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of Antihypertensive drugs and drugs used in shock	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PH1.28	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in ischemic heart disease (stable, unstable angina and myocardial infarction), peripheral vascular disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
PH1.29	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in congestive heart failure	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pathology
PH1.30	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used as Antiarrhythmics	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PH1.31	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in the management of dyslipidemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PH1.34	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs used as below: 1. Acid-peptic disease and GERD 2. Antiemetics and prokinetics 3. Antidiarrhoeals 4. Laxatives 5. Inflammatory Bowel Disease 6. Irritable Bowel Disorders, biliary and pancreatic diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PH1.35	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of drugs used in hematological disorders like: 1. Drugs used in anemias 2. Colony Stimulating factors	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Physiology	Pharmacology
PH1.36	Describe the mechanism of action, types, doses, side effects, indications and contraindications of drugs used in endocrine disorders (diabetes mellitus, thyroid disorders and osteoporosis)	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Pathology, Pharmacology
PH1.43	Describe and discuss the rational use of antimicrobials including antibiotic stewardship program	K	KH	Y	Lecture	Written/ Viva voce		General Medicine Pediatrics	Microbiology, Pharmacology
PH1.47	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in malaria, KALA-AZAR, amebiasis and intestinal helminthiasis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	Microbiology
PH1.52	Describe management of common poisoning, insecticides, common sting and bites	K	KH	Y	Lecture	Written/ Viva voce		General Medicine	
PH2.4	Demonstrate the correct method of calculation of drug dosage in patients including those used in special situations	S	SH	Y	DOAP sessions	Skills assessment		Pediatrics, Pharmacology	
PH3.1	Write a rational, correct and legible generic prescription for a given condition and communicate the same to the patient	S/C	P	Y	Skill station	Skill station	5	General Medicine	
PH3.3	Perform a critical evaluation of the drug promotional literature	S	P	Y	Skill Lab	Maintenance of log book/ Skill station	3	General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PH3.5	To prepare and explain a list of P-drugs for a given case/condition	S	P	Y	Skill station	Maintenance of log book	3	General Medicine	
PH5.1	Communicate with the patient with empathy and ethics on all aspects of drug use	A/C	SH	Y	Small group discussion	Skill station		General Medicine	
PH5.4	Explain to the patient the relationship between cost of treatment and patient compliance	A/C	SH	Y	Small group discussion	Short note/ Viva voce		General Medicine	
Community Medicine									
CM3.1	Describe the health hazards of air, water, noise, radiation and pollution	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, ENT	
CM3.3	Describe the aetiology and basis of water borne diseases/jaundice/hepatitis/ diarrheal diseases	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Microbiology, General Medicine, Pediatrics	
CM5.1	Describe the common sources of various nutrients and special nutritional requirements according to age, sex, activity, physiological conditions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics	
CM5.2	Describe and demonstrate the correct method of performing a nutritional assessment of individuals, families and the community by using the appropriate method	S	SH	Y	DOAP sessions	Skill Assessment		General Medicine, Pediatrics	
CM5.3	Define and describe common nutrition related health disorders (including macro-PEM, Micro-iron, Zn, iodine, Vit. A), their control and management	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics	
CM5.4	Plan and recommend a suitable diet for the individuals and families based on local availability of foods and economic status, etc in a simulated environment	S	SH	Y	DOAP sessions	Skill Assessment		General Medicine, Pediatrics	
CM5.5	Describe the methods of nutritional surveillance, principles of nutritional education and rehabilitation in the context of socio-cultural factors	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine, Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CM6.1	Formulate a research question for a study	K	KH	Y	Small group discussion, Lecture, DOAP sessions	Written/ Viva voce/ Skill Assessment		General Medicine, Pediatrics	
CM6.2	Describe and discuss the principles and demonstrate the methods of collection, classification, analysis, interpretation and presentation of statistical data	S	SH	Y	Small group discussion, Lecture, DOAP sessions	Written/ Viva voce/ Skill Assessment		General Medicine, Pediatrics	
CM6.3	Describe, discuss and demonstrate the application of elementary statistical methods including test of significance in various study designs	S	SH	Y	Small group discussion, Lecture, DOAP sessions	Written/ Viva voce/ Skill Assessment		General Medicine, Pediatrics	
CM6.4	Enumerate, discuss and demonstrate common sampling techniques, simple statistical methods, frequency distribution, measures of central tendency and dispersion	S	SH	Y	Small group discussion, Lecture, DOAP sessions	Written/ Viva voce/ Skill Assessment		General Medicine, Pediatrics	
CM7.1	Define Epidemiology and describe and enumerate the principles, concepts and uses	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		General Medicine	
CM7.2	Enumerate, describe and discuss the modes of transmission and measures for prevention and control of communicable and non-communicable diseases	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		General Medicine	
CM7.3	Enumerate, describe and discuss the sources of epidemiological data	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		General Medicine	
CM7.4	Define, calculate and interpret morbidity and mortality indicators based on given set of data	S	SH	Y	Small group discussion, DOAP sessions	Written/ Skill assessment		General Medicine	
CM7.5	Enumerate, define, describe and discuss epidemiological study designs.	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		General Medicine	
CM7.6	Enumerate and evaluate the need of screening tests	S	SH	Y	Small group discussion, DOAP sessions	Written/ Skill assessment		General Medicine	
CM7.7	Describe and demonstrate the steps in the Investigation of an epidemic of communicable disease and describe the principles of control measures.	S	SH	Y	Small group discussion, DOAP sessions	Written/ Skill assessment		General Medicine	Microbiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CM7.8	Describe the principles of association, causation and biases in epidemiological studies	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		General Medicine	
CM8.1	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for communicable diseases	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		General Medicine, Pediatrics	Microbiology Pathology
CM8.2	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Non Communicable diseases (diabetes, Hypertension, Stroke, obesity and cancer etc.)	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		General Medicine	
CM8.3	Enumerate and describe disease-specific National Health Programs including their prevention and treatment of a case	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		General Medicine, Pediatrics	
CM8.4	Describe the principles and enumerate the measures to control a disease epidemic	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		General Medicine, Pediatrics	
CM8.5	Describe and discuss the principles of planning, implementing and evaluating control measures for disease at community level bearing in mind the public health importance of the disease	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		General Medicine, Pediatrics	
CM12.1	Define and describe the concept of Geriatric services	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
CM12.2	Describe health problems of aged population	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
CM12.3	Describe the prevention of health problems of aged population	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
CM12.4	Describe National program for elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
CM13.1	Define and describe the concept of Disaster management	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CM13.2	Describe disaster management cycle	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	
CM13.3	Describe man made disasters in the world and in India	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Surgery, General Medicine	
CM13.4	Describe the details of the National Disaster management Authority	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Surgery, General Medicine	
Forensic Medicine & Toxicology									
FM1.9	Describe the importance of documentation in medical practice in regard to medicolegal examinations, Medical Certificates and medicolegal reports especially – maintenance of patient case records, discharge summary, prescribed registers to be maintained in Health Centres. -- maintenance of medico-legal register like accident register. - documents of issuance of wound certificate - documents of issuance of drunkenness certificate. - documents of issuance of sickness and fitness certificate. - documents for issuance of death certificate. - documents of Medical Certification of Cause of Death - Form Number4 and 4A - documents for estimation of age by physical, dental and radiological examination and issuance of certificate	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Radiodiagnosis, General Surgery, General Medicine, Pediatrics	
FM2.34	Demonstrate ability to use local resources whenever required like in mass disaster situations	A & C	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine, AETCOM	
FM3.22	Define and discuss impotence, sterility, frigidity, sexual dysfunction, premature ejaculation. Discuss the causes of impotence and sterility in male and female	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, General Medicine	
FM5.5	Describe & discuss Delirium tremens	K	K/KH	Y	Lecture, Small group discussion	Written/Viva voce		Psychiatry, General Medicine	
FM8.6	Describe the general symptoms, principles of diagnosis and management of common poisons encountered in India.	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, DOAP session	Written/Viva voce/OSCE		Pharmacology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
FM8.7	Describe simple Bedside clinic tests to detect poison/drug in a patient's body fluids	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, DOAP session	Written/Viva voce/OSCE		Pharmacology, General Medicine	
FM8.8	Describe basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM9.1	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to: Caustics Inorganic – sulphuric, nitric, and hydrochloric acids Organic- Carbolic Acid (phenol), Oxalic and acetylsalicylic acids .	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM9.2	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Phosphorus, Iodine, Barium	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM9.3	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Arsenic, lead, mercury, copper, iron, cadmium and thallium	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM9.4	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Ethanol, methanol, ethylene glycol	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM9.5	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Organophosphates, Carbamates, Organochlorines, Pyrethroids, Paraquat, Aluminium and Zinc phosphide	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
FM9.6	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Ammonia, carbon monoxide, hydrogen cyanide & derivatives, methyl isocyanate, tear (riot control) gases	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM10.1	Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to: i. Antipyretics – Paracetamol, Salicylates ii. Anti-Infectives (Common antibiotics – an overview) iii. Neuropsychotoxicology Barbiturates, benzodiazepines, phenytoin, lithium, haloperidol, neuroleptics, tricyclics iv. Narcotic Analgesics, Anaesthetics, and Muscle Relaxants v. Cardiovascular Toxicology Cardiotoxic plants – oleander, odollam, aconite, digitalis vi. Gastro-Intestinal and Endocrinal Drugs – Insulin	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pharmacology, General Medicine	
FM11.1	Describe features and management of Snake bite, scorpion sting, bee and wasp sting and spider bite	K	K/KH	Y	Lecture, Small group discussion, Autopsy	Written/Viva voce		General Medicine	
FM12.1	Describe features and management of abuse/poisoning with following camicals: Tobacco, cannabis, amphetamines, cocaine, hallucinogens, designer drugs& solvent	K	K/KH	Y	Lecture, Small group discussion, Autopsy	Written/Viva voce		General Medicine	
FM13.1	Describe toxic pollution of environment, its medico-legal aspects & toxic hazards of occupation and industry	K	K/KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
FM14.2	Demonstrate the correct technique of clinical examination in a suspected case of poisoning & prepare medico-legal report in a simulated/ supervised environment	S	SH	Y	Bedside clinic (ward/casualty), Small group discussion	Logbook Skill station/Viva voce/ OSCE		General Medicine	
FM14.3	Assist and demonstrate the proper technique in collecting, preserving and dispatch of the exhibits in a suspected case of poisoning, along with clinical examination .	S	SH	Y	Bedside clinic, Small group discussion/DOAP session	Skill lab/Viva voce		General Medicine	

Dermatology, Venereology & Leprosy

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
DR9.1	Classify, describe the epidemiology, etiology, microbiology pathogenesis and clinical presentations and diagnostic features of Leprosy	K	KH	Y	Lecture, Small group discussion	Written /Viva voce		General Medicine	Microbiology, Community Medicine
DR9.2	Demonstrate (and classify based on) the clinical features of leprosy including an appropriate neurologic examination	S	SH	Y	Lecture, Small group discussion	Bedside clinic session/ Skill assessment		General Medicine	
DR9.4	Enumerate, describe and identify lepra reactions and supportive measures and therapy of lepra reactions	K	KH	Y	Lecture, Small group discussion	Written /Viva voce		General Medicine	Pharmacology
DR9.5	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for various classes of leprosy based on national guidelines	K	KH	Y	Lecture, Small group discussion	Written /Viva voce		General Medicine	Pharmacology, Community Medicine
DR9.6	Describe the treatment of Leprosy based on the WHO guidelines	K	KH	Y	Lecture, Small group discussion	Written /Viva voce		General Medicine	Pharmacology, Community Medicine
DR9.7	Enumerate and describe the complications of leprosy and its management, including understanding disability and stigma.	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	Pharmacology, Psychiatry
DR10.1	Identify and classify syphilis based on the presentation and clinical manifestations	S	SH	Y	Bedside clinic	Skill assessment		General Medicine	Microbiology
DR10.3	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for syphilis	K	KH	Y	Lecture, Small group discussion	Written /Viva voce		General Medicine	Pharmacology, Microbiology
DR10.4	Describe the prevention of congenital syphilis	K	KH	Y	Lecture, Small group discussion	Written /Viva voce		General Medicine	
DR10.5	Counsel in a non-judgemental and empathetic manner patients on prevention of sexually transmitted diseases	C	SH	Y	Lecture, Small group discussion	Skill assessment		General Medicine	
DR10.6	Describe the etiology, diagnostic and clinical features of non-syphilitic sexually transmitted diseases (chancroid, donovanosis and LGV)	K	KH	Y	Lecture, Small group discussion	Written /Viva voce		General Medicine	Microbiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
DR10.7	Identify and differentiate based on the clinical features non-syphilitic sexually transmitted diseases (chancroid, donovanosis and LGV)	S	SH	Y	Lecture, Small group discussion	Skill assessment		General Medicine	Microbiology
DR10.8	Enumerate the indications and describe the pharmacology, indications and adverse reactions of drugs used in the non-syphilitic sexually transmitted diseases (chancroid, donovanosis and LGV)	K	KH	Y	Lecture, Small group discussion	Written /Viva voce		General Medicine	Pharmacology, Microbiology
DR10.9	Describe the syndromic approach to ulcerative sexually transmitted disease	K	KH	Y	Lecture, Small group discussion	Written /Viva voce		General Medicine	
DR10.10	Describe the etiology, diagnostic and clinical features and management of gonococcal and non gonococcal urethritis	K	KH	Y	Lecture, Small group discussion	Written /Viva voce		General Medicine	
DR11.1	Describe the etiology, pathogenesis and clinical features of the dermatologic manifestations of HIV and its complications including opportunistic infections	K	KH	Y	Lecture, Small group discussion	Written /Viva voce		General Medicine	Microbiology
DR11.2	Identify and distinguish the dermatologic manifestations of HIV its complications, opportunistic infections and adverse reactions	S	SH	Y	Lecture, Small group discussion	Skill assessment		General Medicine	Microbiology
DR11.3	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for dermatologic lesions in HIV	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	Pharmacology, Microbiology
DR12.7	Identify and distinguish fixed drug eruptions and Steven Johnson syndrome from other skin lesions	S	SH	Y	Lecture, Small group discussion	Skill assessment		General Medicine	Pathology, Microbiology
DR16.1	Identify and distinguish skin lesions of SLE	S	SH	Y	Lecture, Small group discussion	Skill assessment		General Medicine	Pathology
DR16.2	Identify and distinguish Raynaud's phenomenon	S	SH	Y	Lecture, Small group discussion	Skill assessment		General Medicine	Pathology
DR17.1	Enumerate and identify the cutaneous findings in vitamin A deficiency	K/S	SH	Y	Lecture, Small group discussion	Skill assessment/ Viva voce		General Medicine, Pediatrics, Biochemistry	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
DR17.2	Enumerate and describe the various skin changes in Vitamin B complex deficiency	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine, Pediatrics, Biochemistry	
DR17.3	Enumerate and describe the various changes in Vitamin C deficiency	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine, Pediatrics, Biochemistry	
DR17.4	Enumerate and describe the various changes in Zinc deficiency	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine, Pediatrics, Biochemistry	
DR18.1	Enumerate the cutaneous features of Type 2 diabetes	K	K	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
DR18.2	Enumerate the cutaneous features of hypo- & hyperthyroidism	K	K	Y	Lecture, Small group discussion	Written/Viva voce		General Medicine	
Anesthesiology									
AS2.1	Enumerate the indications, describe the steps and demonstrate in a simulated environment basic life support in adults children and neonates	S	SH	N	DOAP session	Skill assessment		General Medicine, Pediatrics	
AS2.2	Enumerate the indications, describe the steps and demonstrate in a simulated environment advanced life support in adults and children	S	SH	N	DOAP session	Skill assessment		General Medicine	
AS3.1	Describe the principles of preoperative evaluation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Surgery, General Medicine
AS3.2	Elicit, present and document an appropriate history including medication history in a patient undergoing Surgery as it pertains to a preoperative anaesthetic evaluation	S	SH	Y	DOAP session, Bedside clinic	Skill station			General Surgery, General Medicine
AS3.3	Demonstrate and document an appropriate clinical examination in a patient undergoing General Surgery	S	SH	Y	DOAP session, Bedside clinic	Skill station			General Surgery, General Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
AS3.4	Choose and interpret appropriate testing for patients undergoing Surgery	S	SH	Y	DOAP session, Bedside clinic	Skill station			General Surgery, General Medicine
AS3.5	Determine the readiness for General Surgery in a patient based on the preoperative evaluation	S	SH	Y	DOAP session, Bedside clinic	Skill station			General Surgery, General Medicine
AS7.2	Enumerate and describe the criteria for admission and discharge of a patient to an ICU	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			General Medicine
AS7.3	Observe and describe the management of an unconscious patient	S	KH	Y	Lecture, Small group discussion DOAP session	Written/ Viva voce		Physiology	General Medicine
AS7.4	Observe and describe the basic setup process of a ventilator	S	KH	Y	Lecture, Small group discussion DOAP session	Written/ Viva voce		Physiology	General Medicine
AS7.5	Observe and describe the principles of monitoring in an ICU	S	KH	Y	Lecture, Small group discussion DOAP session	Written/ Viva voce			General Medicine
AS8.4	Describe the principles of pain management in palliative care	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pharmacology	General Medicine
AS8.5	Describe the principles of pain management in the terminally ill	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pharmacology	General Medicine
AS10.4	Define and describe common medical and medication errors in anaesthesia	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pharmacology	General Medicine
Otorhinolaryngology (ENT)									
EN4.53	Describe the Clinical features, Investigations and principles of management of HIV manifestations of the ENT	K	KH	N	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Ophthalmology									
OP5.2	Define, enumerate and describe the aetiology, associated systemic conditions, clinical features, complications, indications for referral and management of scleritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
OP6.3	Enumerate systemic conditions that can present as iridocyclitis and describe their ocular manifestations	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
OP9.3	Describe the role of refractive error correction in a patient with headache and enumerate the indications for referral	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Dentistry									
DE1.4	Discuss the role of dental caries as a focus of sepsis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, General Medicine	
Psychiatry									
PS3.7	Enumerate and describe common organic psychiatric disorders, magnitude, etiology and clinical features	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PS3.8	Enumerate and describe the essential investigations in patients with organic psychiatric disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PS4.1	Describe the magnitude and etiology of alcohol and substance use disorders	K	KH	Y	Lecture, Small group discussion	Lecture/ Small group discussion			General Medicine
PS4.2	Elicit, describe and document clinical features of alcohol and substance use disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Medicine
PS4.3	Enumerate and describe the indications and interpret laboratory and other tests used in alcohol and substance abuse disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Medicine
PS4.4	Describe the treatment of alcohol and substance abuse disorders including behavioural and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PS4.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in alcohol and substance abuse	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PS10.1	Enumerate and describe the magnitude and etiology of somatoform, dissociative and conversion disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PS10.2	Enumerate, elicit, describe and document clinical features in patients with somatoform, dissociative and conversion disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Medicine
PS10.3	Enumerate and describe the indications and interpret laboratory and other tests used in somatoform, dissociative and conversion disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Medicine
PS10.4	Describe the treatment of somatoform disorders including behavioural, psychosocial and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PS10.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in somatoform, dissociative and conversion disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PS12.1	Enumerate and describe the magnitude and etiology of psychosomatic disorders	K	KH	Y	Lecture Small group discussion	Written/ Viva voce			General Medicine
PS12.2	Enumerate, elicit, describe and document clinical features in patients with magnitude and etiology of psychosomatic disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Medicine
PS12.3	Enumerate and describe the indications and interpret laboratory and other tests of psychosomatic disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Medicine
PS12.4	Describe the treatment of psychosomatic disorders including behavioural, psychosocial and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PS16.1	Enumerate and describe common psychiatric disorders in the elderly including dementia, depression and psychosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PS16.2	Describe the aetiology and magnitude of psychiatric illness in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PS16.3	Describe the therapy of psychiatric illness in elderly including psychosocial and behavioural therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PS16.4	Demonstrate family education in a patient with psychiatric disorders occurring in the elderly in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Medicine
Obstetrics & Gynaecology									
OG12.1	Define, classify and describe the etiology and pathophysiology, early detection, investigations; principles of management of hypertensive disorders of pregnancy and eclampsia, complications of eclampsia	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine
OG12.2	Define, Classify and describe the etiology, pathophysiology, diagnosis, investigations, adverse effects on the mother and foetus and the management during pregnancy and labor, and complications of anemia in pregnancy	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine
OG12.3	Define, Classify and describe the etiology, pathophysiology, diagnosis, investigations, criteria, adverse effects on the mother and foetus and the management during pregnancy and labor, and complications of diabetes in pregnancy	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine
OG12.4	Define, classify and describe the etiology, pathophysiology, diagnosis, investigations, criteria, adverse effects on the mother and foetus and the management during pregnancy and labor, and complications of heart diseases in pregnancy	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine
OG12.5	Describe the clinical features, detection, effect of pregnancy on the disease and impact of the disease on pregnancy complications and management in pregnancy of urinary tract infections	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine
OG12.6	Describe the clinical features, detection, effect of pregnancy on the disease and impact of the disease on pregnancy complications and management in pregnancy of liver disease	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine
OG12.7	Describe and discuss Screening, risk factors, management of mother and newborn with HIV	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine
Pediatrics									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE14.3	Discuss the risk factors, clinical features, diagnosis and management of Organophosphorous poisoning	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PE32.3	Interpret normal Karyotype and recognize Trisomy 21	S	SH	Y	Bedside clinics, Skills lab	Log book			General Medicine
PE32.9	Discuss the referral criteria and multidisciplinary approach to management of Turner Syndrome	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Obstetrics & Gynecology
General Surgery									
SU22.6	Describe and discuss the clinical features of hypo- & hyperparathyroidism and the principles of their management	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
SU23.2	Describe the etiology, clinical features and principles of management of disorders of adrenal gland	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
Orthopaedics									
OR5.1	Describe and discuss the aetiopathogenesis, clinical features, Investigations and principles of management of various inflammatory disorder of joints	K	K/KH	Y	Lecture, Small group Discussion, Bedside clinic	Written/ Viva voce OSCE			General Medicine
OR11.1	Describe and discuss the aetiopathogenesis, Clinical features, Investigations and principles of management of peripheral nerve injuries in diseases like foot drop, wrist drop, claw hand, palsies of Radial, Ulnar, Median, Lateral Popliteal and Sciatic Nerves	K	K/H	Y	Lecture Small Group discussion, case discussion	Written/ Viva voce OSCE		Human Anatomy	General Medicine, General surgery
Physical Medicine & Rehabilitation									
PM1.2	Define and describe disability, its cause, and magnitude, identification and prevention of disability	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine Orthopedics
PM1.3	Define and describe the methods to identify and prevent disability	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine Orthopedics

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PM1.4	Enumerate the rights and entitlements of differently abled persons	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine Orthopedics
PM2.1	Describe the causes of disability in the patient with a cerebrovascular accident	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	General Medicine
PM2.2	Describe and discuss the treatment of rigidity and spasticity	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM2.3	Describe and discuss the principles of early mobilizations, mobility aids and splints	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM2.4	Describe and discuss the impact of comorbidities on the rehabilitation of the patient with cerebrovascular accident	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM4.1	Describe the common patterns, clinical features, investigations, diagnosis and treatment of common causes of arthritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine Orthopedics
PM4.5	Demonstrate correct assessment of muscle strength and range of movements	S	SH	Y	DOAP session, Bedside clinic	Skill assessment			General Medicine Orthopedics
PM6.1	Perform and demonstrate a clinical examination of sensory and motor deficits of peripheral nerve	S	SH	Y	Bedside clinic	Skill assessment			General Medicine
PM6.2	Enumerate the indications and describe the principles of nerve conduction velocity and EMG	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM7.4	Assess bowel and bladder function and identify common patterns of bladder dysfunction	S	KH	Y	Small group discussion	Written/ Viva voce			General Medicine Orthopedics
PM7.6	Enumerate the indications and describe the pharmacology and side effects of commonly used drugs in neuropathic bladder	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PM7.7	Enumerate and describe common life threatening complications following SCI like Deep vein Thrombosis, Aspiration Pneumonia, Autonomic dysreflexia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine Orthopedics

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/ N	Suggested Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PM8.1	Describe the clinical features, evaluation, diagnosis and management of disability following traumatic brain injury	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine Orthopedics General Surgery
PM8.2	Describe and discuss cognitive dysfunction like deficits in attention, memory and communication	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM8.3	Describe and discuss common behavior and mood changes following TBI	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM8.4	Describe metabolic co-morbidities like SIADH, diabetes mellitus, insipidus and endocrine dysfunction following TBI	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM8.5	Describe the Vocational opportunities and community based rehabilitation following TBI	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM 9.1	Describe rehabilitative aspects as they pertain to the elderly including patients with dementia, depression, incontinence immobility and nutritional needs	K	KH	Y	Lecture, Small group	Written Viva voce			General Medicine Psychiatry
Radiotherapy									
RT1.3	Enumerate, describe and discuss classification and staging of cancer (AJCC, FIGO etc.)	K	KH	Y	Lecture	Written/ Viva voce		Pathology	General Surgery General Medicine

RESPIRATORY MEDICINE (CODE: CT)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
RESPIRATORY MEDICINE									
Topic:Tuberculosis		Number of competencies: (19)			Number of procedures that require certification : (01)				
CT1.1	Describe and discuss the epidemiology of tuberculosis and its impact on the work, life and economy of India	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
CT1.2	Describe and discuss the microbiology of tubercle bacillus, mode of transmission, pathogenesis, clinical evolution and natural history of pulmonary and extra pulmonary forms (including lymph node, bone and CNS)	K	KH	Y	Lecture, Small group discussion	written		Microbiology	
CT1.3	Discuss and describe the impact of co-infection with HIV and other co-morbid conditions. Like diabetes on the natural history of tuberculosis	K	K	Y	Lecture, Small group discussion	written		Microbiology	
CT1.4	Describe the epidemiology, the predisposing factors and microbial and therapeutic factors that determine resistance to drugs	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology, Pharmacology	
CT1.5	Elicit, document and present an appropriate medical history that includes risk factor, contacts, symptoms including cough and fever CNS and other manifestations	S	SH	Y	Bed side clinic, DOAP session	Skill assessment			
CT1.6	Demonstrate and perform a systematic examination that establishes the diagnosis based on the clinical presentation that includes a a) general examination, b) examination of the chest and lung including loss of volume, mediastinal shift, percussion and auscultation (including DOAP session of lung sounds and added sounds) c) examination of the lymphatic system and d) relevant CNS examination	S	SH	Y	Bed side clinic, DOAP session	Skill assessment			
CT1.7	Perform and interpret a PPD (mantoux) and describe and discuss the indications and pitfalls of the test	S	P	Y	DOAP session	Maintenance of log book		Microbiology	
CT1.8	Generate a differential diagnosis based on the clinical history and evolution of the disease that prioritises the most likely diagnosis	K	K	Y	Bedside clinic, Small group discussion	Bedside clinic/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
CT1.9	Order and interpret diagnostic tests based on the clinical presentation including: CBC, Chest X ray PA view, Mantoux, sputum culture and sensitivity, pleural fluid examination and culture, HIV testing	K	K	Y	Bedside clinic, DOAP session	Skill assessment			
CT1.10	Perform and interpret an AFB stain	S	P	Y	DOAP session	Skill assessment	1	Microbiology	
CT1.11	Assist in the performance, outline the correct tests that require to be performed and interpret the results of a pleural fluid aspiration	S	SH	Y	Skill assessment	Skill assessment			
CT1.12	Enumerate the indications for tests including: serology, special cultures and polymerase chain reaction and sensitivity testing	K	KH	Y	Small group discussion, Lecture	Short note/ Viva voce		Microbiology	
CT1.13	Describe and discuss the origin, indications, technique of administration, efficacy and complications of the BCG vaccine	K	KH	Y	Lecture, Small group discussion	Short note/ Viva voce		Microbiology	
CT1.14	Describe and discuss the pharmacology of various anti-tuberculous agents, their indications, contraindications, interactions and adverse reactions	K	KH	Y	Lecture, Small group discussion	Short note/ Viva voce		Pharmacology, Microbiology	
CT1.15	Prescribe an appropriate antituberculosis regimen based on the location of disease, smear positivity and negativity and co-morbidities based on current national guidelines including directly observed tuberculosis therapy (DOTS)	K	SH	Y	Bedside clinic, Small group discussion, Lecture	Skill assessment		Pharmacology, Community Medicine	
CT1.16	Describe the appropriate precautions, screening, testing and indications for chemoprophylaxis for contacts and exposed health care workers	K	KH	Y	Bedside clinic, Small group discussion	Written		Community Medicine	
CT1.17	Define criteria for the cure of Tuberculosis; describe and recognise the features of drug resistant tuberculosis, prevention and therapeutic regimens	S	P	Y	Lecture, Small group discussion	Written			
CT1.18	Educate health care workers on National Program of Tuberculosis and administering and monitoring the DOTS program	C	SH	Y	DOAP session	Skill assessment		Community Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
CT1.19	Communicate with patients and family in an empathetic manner about the diagnosis, therapy	S	P	Y	DOAP session	Skill assessment		AETCOM	
Topic: Obstructive airway disease Number of competencies: (28) Number of procedures that require certification : (01)									
CT2.1	Define and classify obstructive airway disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
CT2.2	Describe and discuss the epidemiology, risk factors and evolution of obstructive airway disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology , Pathology	
CT2.3	Enumerate and describe the causes of acute episodes in patients with obstructive airway disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
CT2.4	Describe and discuss the physiology and pathophysiology of hypoxia and hypercapnea	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
CT2.5	Describe and discuss the genetics of alpha 1 antitrypsin deficiency in emphysema	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
CT2.6	Describe the role of the environment in the cause and exacerbation of obstructive airway disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
CT2.7	Describe and discuss allergic and non-allergic precipitants of obstructive airway disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
CT2.8	Elicit document and present a medical history that will differentiate the aetiologies of obstructive airway disease, severity and precipitants	S	SH	Y	Bed side clinic, DOAP session	Skill assessment			
CT2.9	Perform a systematic examination that establishes the diagnosis and severity that includes measurement of respiratory rate, level of respiratory distress, effort tolerance, breath sounds, added sounds, identification of signs of consolidation pleural effusion and pneumothorax	S	SH	Y	Bed side clinic, DOAP session	Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
CT2.10	Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology	S	SH	Y	Bed side clinic, DOAP session	Skill assessment/ Written			
CT2.11	Describe, discuss and interpret pulmonary function tests	S	SH	Y	Bed side clinic, DOAP session	Skill assessment		Physiology, Pathology	
CT2.12	Perform and interpret peak expiratory flow rate	S	P	Y	Bedside clinic, DOAP session	documentation in log book/ Skill assessment	3		
CT2.13	Describe the appropriate diagnostic work up based on the presumed aetiology	S	SH	Y	Bedside clinic, Small group discussion	Written/ Skill assessment			
CT2.14	Enumerate the indications for and interpret the results of : pulse oximetry, ABG, Chest Radiograph	K	SH	Y	Bedside clinics, Small group discussion, DOAP session	Written/ Skill assessment			
CT2.15	Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology	K	SH	Y	Bedside clinics, Small group discussion, DOAP session	Written/ Skill assessment			
CT2.16	Discuss and describe therapies for OAD including bronchodilators, leukotriene inhibitors, mast cell stabilisers, theophylline, inhaled and systemic steroids, oxygen and immunotherapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
CT2.17	Describe and discuss the indications for vaccinations in OAD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
CT2.18	Develop a therapeutic plan including use of bronchodilators and inhaled corticosteroids	K	SH	Y	Bedside clinics, Small group discussion, DOAP session	Written/ Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
CT2.19	Develop a management plan for acute exacerbations including bronchodilators, systemic steroids, antimicrobial therapy	K	SH	Y	Bedside clinics, Small group discussion, DOAP session	Written/ Skill assessment			
CT2.20	Describe and discuss the principles and use of oxygen therapy in the hospital and at home	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
CT2.21	Describe discuss and counsel patients appropriately on smoking cessation	K/C	SH	Y	DOAP session	Skill assessment		AETCOM	
CT2.22	Demonstrate and counsel patient on the correct use of inhalers	S/C	SH	Y	DOAP session	Skill assessment			
CT2.23	Communicate diagnosis treatment plan and subsequent follow up plan to patients	K/C	SH	Y	DOAP session	Skill assessment			
CT2.24	Recognise the impact of OAD on patient's quality of life, well being, work and family	A	KH	Y	Small group discussion, Bedside clinics	Observation by faculty		Community Medicine	
CT2.25	Discuss and describe the impact of OAD on the society and workplace	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
CT2.26	Discuss and describe preventive measures to reduce OAD in workplaces	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
CT2.27	Demonstrate an understanding of patient's inability to change working, living and environmental factors that influence progression of airway disease	A	KH	Y	Small group discussion, Bedside clinics	Observation by faculty		Community Medicine	
CT2.28	Demonstrate an understanding for the difficulties faced by patients during smoking cessation	A	KH	Y	Small group discussion, Bedside clinics	Observation by faculty			
	Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation								

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Integration									
Physiology									
PY6.8	Demonstrate the correct technique to perform & interpret Spirometry	S	SH	Y	DOAP sessions	Skill assessment/ Viva voce		Respiratory Medicine	
Pharmacology									
PH1.32	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of drugs used in bronchial asthma and COPD	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Respiratory Medicine	
PH1.33	Describe the mechanism of action, types, doses, side effects, indications and contraindications of the drugs used in cough (antitussives, expectorants/ mucolytics)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Respiratory Medicine	
PH1.44	Describe the first line antitubercular drugs, their mechanisms of action, side effects and doses.	K	KH	Y	Lecture	Written/ Viva voce		Respiratory Medicine	
PH1.45	Describe the drugs used in MDR and XDR Tuberculosis	K	KH	Y	Lecture	Written/ Viva voce		Respiratory Medicine	Microbiology
General Medicine									
IM24.10	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of COPD in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Respiratory Medicine
Pediatrics									
PE28.19	Describe the etio-pathogenesis, clinical features, diagnosis, management and prevention of asthma in children	S	SH	Y	Bedside clinics, Small group discussion, Lecture	Skill Assessment/ Written/ Viva voce		Respiratory Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PE28.20	Counsel the child with asthma on the correct use of inhalers in a simulated environment	S	P	Y	Bedside clinics, Small group discussion, Lecture	Skills Assessment/ Written/ Viva voce	3	Respiratory Medicine	
PE34.1	Discuss the epidemiology, clinical features, clinical types, complications of Tuberculosis in Children and Adolescents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	Respiratory Medicine
PE34.2	Discuss the various diagnostic tools for childhood tuberculosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	Respiratory Medicine
PE34.3	Discuss the various regimens for management of Tuberculosis as per National Guidelines	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Community Medicine, Pharmacology	Respiratory Medicine
PE34.4	Discuss the preventive strategies adopted and the objectives and outcome of the National Tuberculosis Control Program	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Community Medicine, Pharmacology	Respiratory Medicine
PE34.5	Able to elicit, document and present history of contact with tuberculosis in every patient encounter	S	SH	Y	Bedside clinics, Skill lab	Skill Assessment			Respiratory Medicine
PE34.6	Identify a BCG scar	S	P	Y	Bed side clinics, Skills lab	Skill Assessment	3	Microbiology	Respiratory Medicine
PE34.7	Interpret a Mantoux test	S	P	Y	Bed side clinics Skills lab	Skill assessment	3	Microbiology	Respiratory Medicine
PE34.8	Interpret a Chest Radiograph	S	SH	Y	Bedside clinics Skills lab	Skill assessment		Radiodiagnosis	Respiratory Medicine
PE34.9	Interpret blood tests in the context of laboratory evidence for tuberculosis	S	SH	N	Bed side clinics, Small group discussion	Log book		Microbiolgy	Respiratory Medicine
PE34.10	Discuss the various samples for demonstraing the organism eg Gastric Aspirate, Sputum , CSF, FNAC	K	KH	Y	Bed side clinics, Small group discussion	Written/ Viva voce		Microbiolgy	Respiratory Medicine
PE34.11	Perform AFB staining	S	P	Y	DOAP session	Log book/Journal	3	Microbiology	Respiratory Medicine
PE34.12	Enumerate the indications and discuss the limitations of methods of culturing M.Tuberculi	K	KH	Y	Small group discussion	Written/ Viva voce		Microbiology	Respiratory Medicine

PEDIATRICS (CODE: PE)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PEDIATRICS									
Topic: Normal Growth and Development		Number of competencies : (07)			Number of procedures that require certification: (02)				
PE1.1	Define the terminologies Growth and development and discuss the factors affecting normal growth and development	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE1.2	Discuss and describe the patterns of growth in infants, children and adolescents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE1.3	Discuss and describe the methods of assessment of growth including use of WHO and Indian national standards. Enumerate the parameters used for assessment of physical growth in infants, children and adolescents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE1.4	Perform Anthropometric measurements, document in growth charts and interpret	S	P	Y	Small group discussion	Document in Log book	3		
PE1.5	Define development and discuss the normal developmental mile stones with respect to motor, behaviour, social, adaptive and language	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE1.6	Discuss the methods of assessment of development	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE1.7	Perform Developmental assessment and interpret	S	P	N	Bedside clinics, Skills Lab	Document in Log book	3		
Topic: Common problems related to Growth		Number of competencies:(06)			Number of procedures that require certification: (NIL)				
PE2.1	Discuss the etio-pathogenesis, clinical features and management of a child who fails to thrive	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE2.2	Assessment of a child with failing to thrive including eliciting an appropriate history and examination	S	SH	Y	Bedside clinics	Skills Station			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE2.3	Counselling a parent with failing to thrive child	A/C	SH	Y	OSPE	Document in Log book		AETCOM	
PE2.4	Discuss the etio-pathogenesis, clinical features and management of a child with short stature	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE2.5	Assessment of a child with short stature: Elicit history, perform examination, document and present	S	SH	Y	Bedside clinics, Skill lab	Skill Assessment			
PE2.6	Enumerate the referral criteria for growth related problems	K	K	Y	Small group discussion	Written/ Viva voce			
Topic: Common problems related to Development -1 (Developmental delay , Cerebral palsy) Number of competencies:(08) Number of procedures that require certification: (NIL)									
PE3.1	Define, enumerate and discuss the causes of developmental delay and disability including intellectual disability in children	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PE3.2	Discuss the approach to a child with developmental delay	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PE3.3	Assessment of a child with developmental delay - Elicit document and present history	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment			
PE3.4	Counsel a parent of a child with developmental delay	S	SH	Y	DOAP session	Document in Log Book			
PE3.5	Discuss the role of the child developmental unit in management of developmental delay	K	K	N	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
PE3.6	Discuss the referral criteria for children with developmental delay	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PE3.7	Visit a Child Developmental Unit and observe its functioning	S	KH	Y	Lecture, Small group discussion	Log book Entry		Community Medicine	
PE3.8	Discuss the etio-pathogenesis, clinical presentation and multi-disciplinary approach in the management of Cerebral palsy	K	KH	Y	Lecture, Small group, Bedside clinics	Written/ Viva voce			Physical Medicine & Rehabilitation

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Common problems related to Development-2 (Scholastic backwardness, Learning Disabilities , Autism , ADHD) Number of competencies: (06) Number of procedures that require certification: (NIL)									
PE4.1	Discuss the causes and approach to a child with scholastic backwardness	K	K	N	Lecture, Small group discussion	Written			
PE4.2	Discuss the etiology, clinical features, diagnosis and management of a child with Learning Disabilities	K	K	N	Lecture, Small group discussion	Written			
PE4.3	Discuss the etiology, clinical features, diagnosis and management of a child with Attention Deficit Hyperactivity Disorder (ADHD)	K	K	N	Lecture, Small group discussion	Written			
PE4.4	Discuss the etiology, clinical features, diagnosis and management of a child with Autism	K	K	N	Lecture, Small group discussion	Written			
PE4.5	Discuss the role of Child Guidance clinic in children with Developmental problems	K	K	N	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
PE4.6	Visit to the Child Guidance Clinic	S	KH	N	Lecture, Small group discussion	Document in Log Book			
Topic: Common problems related to behavior Number of competencies: (11) Number of procedures that require certification: (NIL)									
PE5.1	Describe the clinical features, diagnosis and management of thumb sucking	K	K	N	Lecture, Small group discussion	Written			
PE5.2	Describe the clinical features, diagnosis and management of Feeding problems	K	K	N	Lecture, Small group discussion	Written			
PE5.3	Describe the clinical features, diagnosis and management of nail biting	K	K	N	Lecture, Small group discussion	Written/ Viva voce			
PE5.4	Describe the clinical features, diagnosis and management of Breath Holding spells	K	K	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE5.5	Describe the clinical features, diagnosis and management of temper tantrums	K	K	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE5.6	Describe the clinical features, diagnosis and management of Pica	K	K	N	Lecture, Small group discussion	Written/ Viva voce			
PE5.7	Describe the clinical features, diagnosis and management of Fussy infant	K	K	N	Lecture, Small group discussion	Written			Psychiatry
PE5.8	Discuss the etiology, clinical features and management of Enuresis	K	K	N	Lecture, Small group discussion	Written/ Viva voce			
PE5.9	Discuss the etiology, clinical features and management of Encopresis	K	K	N	Lecture, Small group discussion	Written/ Viva voce			
PE5.10	Discuss the role of child guidance clinic in children with behavioural problems and the referral criteria	K	K	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE5.11	Visit to Child Guidance Clinic and observe functioning	K	KH	N	Lecture, Small group discussion	Document in Log Book			
Topic: Adolescent Health & common problems related to Adolescent Health Number of competencies: (13) Number of procedures that require certification: (NIL)									
PE6.1	Define Adolescence and stages of adolescence	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PE6.2	Describe the physical, physiological and psychological changes during adolescence (Puberty)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE6.3	Discuss the general health problems during adolescence	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE6.4	Describe adolescent sexuality and common problems related to it	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE6.5	Explain the Adolescent Nutrition and common nutritional problems	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE6.6	Discuss the common Adolescent eating disorders (Anorexia Nervosa, Bulimia)	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE6.7	Describe the common mental health problems during adolescence	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE6.8	Respecting patient privacy and maintaining confidentiality while dealing with adolescence	A	SH	Y	Bedside clinics	Document in log book			AETCOM
PE6.9	Perform routine Adolescent Health check up including eliciting history, performing examination including SMR (Sexual Maturity Rating), growth assessments (using Growth charts) and systemic exam including thyroid and Breast exam and the HEADSS screening	S	SH	Y	Bedside clinics	Skills station			
PE6.10	Discuss the objectives and functions of AFHS (Adolescent Friendly Health Services) and the referral criteria	K	K	N	Lecture, Small group discussion	Written/ Viva voce			
PE6.11	Visit to the Adolescent Clinic	S	KH	Y	DOAP session	Document in Log Book			
PE6.12	Enumerate the importance of obesity and other NCD in adolescents	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PE6.13	Enumerate the prevalence and the importance of recognition of sexual drug abuse in adolescents and children	K	K	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
Topic: To promote and support optimal Breast feeding for Infants Number of competencies: (11) Number of procedures that require certification: (01)									
PE7.1	Awareness on the cultural beliefs and practices of breast feeding	K	K	N	Lecture, Small group discussion	Viva			Obstetrics & Gynaecology
PE7.2	Explain the physiology of lactation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE7.3	Describe the composition and types of breast milk and discuss the differences between cow's milk and Human milk	K	KH	Y	Lecture, debate	Written/ Viva voce		Physiology	
PE7.4	Discuss the advantages of breast milk	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE7.5	Observe the correct technique of breast feeding and distinguish right from wrong techniques	S	P	Y	Bedside clinics, Skills lab	Skill Assessment	3		
PE7.6	Enumerate the baby friendly hospital initiatives	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE7.7	Perform breast examination and identify common problems during lactation such as retracted nipples, cracked nipples, breast engorgement, breast abscess	S	SH	Y	Bedside clinics, Skill Lab	Skill Assessment			Obstetrics & Gynaecology, AETCOM
PE7.8	Educate mothers on ante natal breast care and prepare mothers for lactation	A/C	SH	Y	DOAP session	Document in Log Book			AETCOM
PE7.9	Educate and counsel mothers for best practices in Breast feeding	A/C	SH	Y	DOAP session	Document in Log Book			Obstetrics & Gynaecology, AETCOM
PE7.10	Respects patient privacy	A	SH	Y	DOAP session	Document in Log Book			AETCOM
PE7.11	Participate in Breast Feeding Week Celebration	A	SH	Y	DOAP session	Document in Log Book			
Topic: Complementary Feeding Number of competencies : (05) Number of procedures that require certification: (NIL)									
PE8.1	Define the term Complementary Feeding	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE8.2	Discuss the principles, the initiation, attributes, frequency, techniques and hygiene related to Complementary Feeding including IYCF	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
PE8.3	Enumerate the common complimentary foods	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
PE8.4	Elicit history on the Complementary Feeding habits	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment		Community Medicine	
PE8.5	Counsel and educate mothers on the best practices in Complimentary Feeding	A/C	SH	Y	DOAP session	Document in Log Book		Community Medicine	

Topic: Normal nutrition, assessment and monitoring

Numbcompetencies : (07)

Number of procedures that require certification: (NIL)

PE9.1	Describe the age related nutritional needs of infants, children and adolescents including micronutrients and vitamins	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Biochemistry	
PE9.2	Describe the tools and methods for assessment and classification of nutritional status of infants, children and adolescents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
PE9.3	Explains the Calorific value of common Indian foods	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE9.4	Elicit document and present an appropriate nutritional history and perform a dietary recall	S	SH	Y	Bedside clinic, Skills lab	Skill Assessment		Community Medicine	
PE9.5	Calculate the age related calorie requirement in Health and Disease and identify gap	S	SH	Y	Bedside clinics, Small group discussion	Skill assessment		Community Medicine	
PE9.6	Assess and classify the nutrition status of infants, children and adolescents and recognize deviations	S	SH	Y	Bedside clinic, Small group discussion	Skill Assessment		Community Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE9.7	Plan an appropriate diet in health and disease	S	SH	N	Bedside clinic, Small group discussion	Document in logbook		Community Medicine	
Topic: Provide nutritional support , assessment and monitoring for common nutritional problems Number of competencies: (06) Number of procedures that require certification: (NIL)									
PE10.1	Define and describe the etio-pathogenesis, classify including WHO classification, clinical features, complication and management of Severe Acute Malnourishment (SAM) and Moderate Acute Malnutrition (MAM)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	
PE10.2	Outline the clinical approach to a child with SAM and MAM	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	
PE10.3	Assessment of a patient with SAM and MAM, diagnosis, classification and planning management including hospital and community based intervention, rehabilitation and prevention	S	SH	Y	Bedside clinics, Skills lab	Skill station		Physiology, Biochemistry	
PE10.4	Identify children with under nutrition as per IMNCI criteria and plan referral	S	SH	Y	DOAP session	Document in log book		Community Medicine	
PE10.5	Counsel parents of children with SAM and MAM	S	SH	Y	Bedside clinic, Skills Station	Document in Log book		AETCOM	
PE10.6	Enumerate the role of locally prepared therapeutic diets and ready to use therapeutic diets	K	K	N	Lecture, Small group discussion	Written/ Viva voce			
Topic: Obesity in children Number of competencies: (06) Number of procedures that require certification: (01)									
PE11.1	Describe the common etiology, clinical features and management of obesity in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry, Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE11.2	Discuss the risk approach for obesity and discuss the prevention strategies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
PE11.3	Assessment of a child with obesity with regard to eliciting history including physical activity, charting and dietary recall	S	SH	Y	Bedside clinics, Standardized patients	Document in log book			
PE11.4	Examination including calculation of BMI, measurement of waist hip ratio, identifying external markers like acanthosis, striae, pseudogynaecomastia etc	S	SH	Y	Bedside clinics, Standardized patients, Videos	Skills Station			
PE11.5	Calculate BMI, document in BMI chart and interpret	S	P	Y	Bedside clinics, Small group discussion	Document in log book	3		
PE11.6	Discuss criteria for referral	K	K	Y	Small group discussion	Viva voce			
Topic: Micronutrients in Health and disease-1 (Vitamins ADEK, B Complex and C) Number of competencies: (21) Number of procedures that require certification: (NIL)									
PE12.1	Discuss the RDA, dietary sources of Vitamin A and their role in Health and disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.2	Describe the causes, clinical features, diagnosis and management of Deficiency / excess of Vitamin A	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.3	Identify the clinical features of dietary deficiency / excess of Vitamin A	S	SH	Y	Bedside clinics, Small group discussion	Document in log book		Biochemistry	
PE12.4	Diagnose patients with Vitamin A deficiency, classify and plan management	S	SH	N	Bedside clinics, Skill Station	Document in log book		Biochemistry	
PE12.5	Discuss the Vitamin A prophylaxis program and their recommendations	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE12.6	Discuss the RDA, dietary sources of Vitamin D and their role in health and disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.7	Describe the causes, clinical features, diagnosis and management of Deficiency / excess of Vitamin D (Rickets and Hypervitaminosis D)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Physiology, Pathology	
PE12.8	Identify the clinical features of dietary deficiency of Vitamin D	S	SH	Y	Bedside clinics, Skills lab	Document in log book		Biochemistry, Physiology, Pathology	
PE12.9	Assess patients with Vitamin D deficiency, diagnose, classify and plan management	S	SH	Y	Bedside clinics	Document in log book		Biochemistry, Physiology, Pathology	
PE12.10	Discuss the role of screening for Vitamin D deficiency	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PE12.11	Discuss the RDA, dietary sources of Vitamin E and their role in health and disease	K	K	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.12	Describe the causes, clinical features, diagnosis and management of deficiency of Vitamin E	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.13	Discuss the RDA, dietary sources of Vitamin K and their role in health and disease	K	K	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Physiology, Pathology	
PE12.14	Describe the causes, clinical features, diagnosis management and prevention of deficiency of Vitamin K	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Physiology, Pathology	
PE12.15	Discuss the RDA, dietary sources of Vitamin B and their role in health and disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.16	Describe the causes, clinical features, diagnosis and management of deficiency of B complex Vitamins	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE12.17	Identify the clinical features of Vitamin B complex deficiency	S	SH	Y	Bedside clinics, Skills lab	Document in log book		Biochemistry	
PE12.18	Diagnose patients with Vitamin B complex deficiency and plan management	S	SH	Y	Bedside clinics, Skills lab	Document in log book		Biochemistry	
PE12.19	Discuss the RDA , dietary sources of Vitamin C and their role in Health and disease	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.20	Describe the causes, clinical features, diagnosis and management of deficiency of Vitamin C (scurvy)	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE12.21	Identify the clinical features of Vitamin C deficiency	S	SH	N	Bedside clinics, Skill lab	Document in log book		Biochemistry	
Topic: Micronutrients in Health and disease -2: Iron, Iodine, Calcium, Magnesium <div> <div>Number of competencies: (14)</div> <div>Number of procedures that require certification: (NIL)</div> </div>									
PE13.1	Discuss the RDA, dietary sources of Iron and their role in health and disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Biochemistry	
PE13.2	Describe the causes, diagnosis and management of Fe deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Biochemistry	
PE13.3	Identify the clinical features of dietary deficiency of Iron and make a diagnosis	S	SH	Y	Bedside clinics, Skills lab	Document in log book		Pathology, Biochemistry	
PE13.4	Interpret hemogram and Iron Panel	S	SH	Y	Bedside clinic, Small group discussion	Skill Assessment		Pathology, Biochemistry	
PE13.5	Propose a management plan for Fe deficiency anaemia	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment		Pathology, Pharmacology	
PE13.6	Discuss the National anaemia control program and its recommendations	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Community Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE13.7	Discuss the RDA , dietary sources of Iodine and their role in Health and disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE13.8	Describe the causes, diagnosis and management of deficiency of Iodine	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE13.9	Identify the clinical features of Iodine deficiency disorders	S	SH	N	Lecture, Bedside clinic	Written/ Viva voce		Biochemistry	
PE13.10	Discuss the National Goiter Control program and their recommendations	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Community Medicine	
PE13.11	Discuss the RDA, dietary sources of Calcium and their role in health and disease	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE13.12	Describe the causes, clinical features, diagnosis and management of Ca Deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE13.13	Discuss the RDA, dietary sources of Magnesium and their role in health and disease	K	K	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
PE13.14	Describe the causes, clinical features, diagnosis and management of Magnesium Deficiency	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Biochemistry	
Topic: Toxic elements and free radicals and oxygen toxicity Number of competencies: (05) Number of procedures that require certification (NIL)									
PE14.1	Discuss the risk factors, clinical features, diagnosis and management of Lead Poisoning	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PE14.2	Discuss the risk factors, clinical features, diagnosis and management of Kerosene ingestion	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE14.3	Discuss the risk factors, clinical features, diagnosis and management of Organophosphorous poisoning	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE14.4	Discuss the risk factors, clinical features, diagnosis and management of paracetamol poisoning	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PE14.5	Discuss the risk factors, clinical features, diagnosis and management of Oxygen toxicity	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			
Topic: Fluid and electrolyte balance Number of competencies:(07) Number of procedures that require certification:(NIL)									
PE15.1	Discuss the fluid and electrolyte requirement in health and disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE15.2	Discuss the clinical features and complications of fluid and electrolyte imbalance and outline the management	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE15.3	Calculate the fluid and electrolyte requirement in health	S	SH	Y	Bedside clinics, Small group discussion	Skill Assessment			
PE15.4	Interpret electrolyte report	S	SH	Y	Bedside clinics, Small group discussion	Skill Assessment			
PE15.5	Calculate fluid and electrolyte imbalance	S	SH	Y	Bedside clinics, Small group discussion	Skill Assessment			
PE15.6	Demonstrate the steps of inserting an IV cannula in a model	S	SH	Y	Skills Lab	mannequin			
PE15.7	Demonstrate the steps of inserting an interosseous line in a mannequin	S	SH	Y	Skills Lab	mannequin			
Topic: Integrated Management of Neonatal and Childhood Illnesses (IMNCI) Guideline Number of competencies:(03) Number of procedures that require certification: (NIL)									
PE16.1	Explain the components of Integrated Management of Neonatal and Childhood Illnesses (IMNCI) guidelines and method of Risk stratification	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE16.2	Assess children <2 months using IMNCI Guidelines	S	SH	Y	DOAP session	Document in log Book			
PE16.3	Assess children >2 to 5 years using IMNCI guidelines and Stratify Risk	S	SH	Y	DOAP session	Document in log Book			
Topic: The National Health programs, NHM Number of competencies:(02) Number of procedures that require certification: (NIL)									
PE17.1	State the vision and outline the goals, strategies and plan of action of NHM and other important national programs pertaining to maternal and child health including RMNCH A+, RBSK, RKSK, JSSK mission Indradhanush and ICDS	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
PE17.2	Analyse the outcomes and appraise the monitoring and evaluation of NHM	K	KH	Y	Debate	Written/ Viva voce		Community Medicine	
Topic: The National Health Programs: RCH Number of competencies: (08) Number of procedures that require certification: (NIL)									
PE18.1	List and explain the components, plan, outcome of Reproductive Child Health (RCH) program and appraise its monitoring and evaluation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	Obstetrics & Gynaecology
PE18.2	Explain preventive interventions for child survival and safe motherhood	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	Obstetrics & Gynaecology
PE18.3	Conduct Antenatal examination of women independently and apply at-risk approach in antenatal care	S	SH	Y	Bedside clinics	Skill station		Community Medicine	Obstetrics & Gynaecology
PE18.4	Provide intra-natal care and conduct a normal delivery in a simulated environment	S	SH	Y	DOAP session, Skills lab	Document in Log Book		Community Medicine	Obstetrics & Gynaecology
PE18.5	Provide intra-natal care and observe the conduct of a normal delivery	S	SH	Y	DOAP session	Document in Log Book			Obstetrics & Gynaecology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE18.6	Perform Postnatal assessment of newborn and mother, provide advice on breast feeding, weaning and on family planning	S	SH	Y	Bed side clinics, Skill Lab	Skill Assessment		Community Medicine	Obstetrics & Gynaecology
PE18.7	Educate and counsel caregivers of children	A	SH	Y	Postnatal ward, standardized patient	Skill Assessment		AETCOM	
PE18.8	Observe the implementation of the program by visiting the Rural Health Centre	S	KH	Y	Bed side clinics, Skill Lab	Document in log book		Community Medicine	Obstetrics & Gynaecology
Topic: National Programs, RCH - Universal Immunizations program Number of competencies: (16) Number of procedures that require certification: (01)									
PE19.1	Explain the components of the Universal Immunization Program and the National Immunization Program	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology, Biochemistry	
PE19.2	Explain the epidemiology of Vaccine preventable diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology, Biochemistry	
PE19.3	Vaccine description with regard to classification of vaccines, strain used, dose, route, schedule, risks, benefits and side effects, indications and contraindications	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology, Biochemistry	
PE19.4	Define cold chain and discuss the methods of safe storage and handling of vaccines	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology, Biochemistry	
PE19.5	Discuss immunization in special situations – HIV positive children, immunodeficiency, pre-term, organ transplants, those who received blood and blood products, splenectomised children, adolescents, travellers	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology, Biochemistry	
PE19.6	Assess patient for fitness for immunization and prescribe an age appropriate immunization schedule	S	P	Y	Out Patient clinics Skills lab	Skill Assessment	5		

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE19.7	Educate and counsel a patient for immunization	A/C	SH	Y	DOAP session	Document in Log Book			
PE19.8	Demonstrate willingness to participate in the National and sub national immunisation days	A	SH	Y	Lecture, Small group discussion	Document in Log Book		Community Medicine	
PE19.9	Describe the components of safe vaccine practice – Patient education/ counselling; adverse events following immunization, safe injection practices, documentation and Medico-legal implications	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			AETCOM
PE19.10	Observe the handling and storing of vaccines	S	SH	Y	DOAP session	Written/ Viva voce			
PE19.11	Document Immunization in an immunization record	S	SH	Y	Out Patient clinics, Skills lab	Skill assessment			
PE19.12	Observe the administration of UIP vaccines	S	SH	Y	DOAP session	Document in Log Book		Community Medicine	
PE19.13	Demonstrate the correct administration of different vaccines in a mannequin	S	SH	Y	DOAP session	Document in Log Book			
PE19.14	Practice Infection control measures and appropriate handling of the sharps	S	SH	Y	DOAP session	Document in Log Book			
PE19.15	Explain the term implied consent in Immunization services	K	K	Y	Small group discussion	Written/ Viva voce			
PE19.16	Enumerate available newer vaccines and their indications including pentavalent pneumococcal, rotavirus, JE, typhoid IPV & HPV	K	K	N	Lecture, Small group discussion	Written/ Viva voce			

Topic: Care of the Normal New born, and High risk New born

Number of competencies: (20)

Number of procedures that require certification: (NIL)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE20.1	Define the common neonatal nomenclatures including the classification and describe the characteristics of a Normal Term Neonate and High Risk Neonates	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE20.2	Explain the care of a normal neonate	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE20.3	Perform Neonatal resuscitation in a manikin	S	SH	Y	DOAP session	Log book entry of Performance			
PE20.4	Assessment of a normal neonate	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment			
PE20.5	Counsel / educate mothers on the care of neonates	A/C	SH	Y	DOAP session	Log book documentation			
PE20.6	Explain the follow up care for neonates including Breast Feeding, Temperature maintenance, immunization, importance of growth monitoring and red flags	S	SH	Y	DOAP session	Log book entry			Obstetrics & Gynaecology
PE20.7	Discuss the etiology, clinical features and management of Birth asphyxia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE20.8	Discuss the etiology, clinical features and management of respiratory distress in New born including meconium aspiration and transient tachypnoea of newborn	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE20.9	Discuss the etiology, clinical features and management of Birth injuries	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE20.10	Discuss the etiology, clinical features and management of Hemorrhagic disease of New born	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE20.11	Discuss the clinical characteristics, complications and management of Low birth weight (preterm and Small for gestation)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE20.12	Discuss the temperature regulation in neonates, clinical features and management of Neonatal Hypothermia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE20.13	Discuss the temperature regulation in neonates, clinical features and management of Neonatal Hypoglycemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE20.14	Discuss the etiology, clinical features and management of Neonatal hypocalcemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE20.15	Discuss the etiology, clinical features and management of Neonatal seizures	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE20.16	Discuss the etiology, clinical features and management of Neonatal Sepsis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE20.17	Discuss the etiology, clinical features and management of Perinatal infections	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE20.18	Identify and stratify risk in a sick neonate using IMNCI guidelines	S	SH	Y	DOAP session	Document in Log Book			
PE20.19	Discuss the etiology, clinical features and management of Neonatal hyperbilirubinemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE20.20	Identify clinical presentations of common surgical conditions in the new born including TEF, esophageal atresia, anal atresia, cleft lip and palate, congenital diaphragmatic hernia and causes of acute abdomen	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Topic: Genito-Urinary system

Number of competencies: (17)

Number of procedures that require certification: (NIL)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE21.1	Enumerate the etio-pathogenesis, clinical features, complications and management of Urinary Tract infection in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE21.2	Enumerate the etio-pathogenesis, clinical features, complications and management of acute post-streptococcal Glomerular Nephritis in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE21.3	Discuss the approach and referral criteria to a child with Proteinuria	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE21.4	Discuss the approach and referral criteria to a child with Hematuria	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
PE21.5	Enumerate the etio-pathogenesis, clinical features, complications and management of Acute Renal Failure in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE21.6	Enumerate the etio-pathogenesis, clinical features, complications and management of Chronic Renal Failure in Children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE21.7	Enumerate the etio-pathogenesis, clinical features, complications and management of Wilms Tumor	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE21.8	Elicit, document and present a history pertaining to diseases of the Genitourinary tract	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment			General Surgery
PE21.9	Identify external markers for Kidney disease, like Failing to thrive, hypertension, pallor, Ichthyosis, anasarca	S	SH	Y	Bedside clinics, Skills lab	Document in log book			
PE21.10	Analyse symptom and interpret the physical findings and arrive at an appropriate provisional / differential diagnosis	S	SH	Y	Bedside clinics, Skills lab	Log book			
PE21.11	Perform and interpret the common analytes in a Urine examination	S	SH	Y	Bedside clinics, Skills lab	Skill assessment		Biochemistry, Pathology	
PE21.12	Interpret report of Plain X Ray of KUB	S	SH	Y	Bedside clinics, Skills lab	Log book		Radiodiagnosis	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE21.13	Enumerate the indications for and Interpret the written report of Ultra sonogram of KUB	S	SH	Y	Bedside clinics, Skills lab	Log book		Radiodiagnosis	
PE21.14	Recognize common surgical conditions of the abdomen and genitourinary system and enumerate the indications for referral including acute and subacute intestinal obstruction, appendicitis, pancreatitis, perforation intussusception, Phimosis, undescended testis, Chordee, hypospadiasis, Torsion testis, hernia Hydrocele, Vulval Synechiae	S	SH	Y	Bedside clinics, Skills lab	Log book assessment			General Surgery
PE21.15	Discuss and enumerate the referral criteria for children with genitourinary disorder	S	SH	Y	Bedside clinics, Skills lab	Log book assessment			
PE21.16	Counsel / educate a patient for referral appropriately	A/C	SH	Y	DOAP session	Document in Log book		AETCOM	
PE21.17	Describe the etiopathogenesis, grading, clinical features and management of hypertension in children	K	KH	Y	Lecture, Small group discussion	Short notes			
Topic: Approach to and recognition of a child with possible Rheumatologic problem <div> <div>Number of competencies: (03)</div> <div>Number of procedures that require certification:(NIL)</div> </div>									
PE22.1	Enumerate the common Rheumatological problems in children. Discuss the clinical approach to recognition and referral of a child with Rheumatological problem	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE22.2	Counsel a patient with Chronic illness	S	SH	N	Bedside clinics Skills lab	Log book			
PE22.3	Describe the diagnosis and management of common vasculitic disorders including Henoch Schonlein Purpura, Kawasaki Disease, SLE, JIA	K	K	N	Lecture, Small group discussion	Written/ Viva voce			
Topic: Cardiovascular system- Heart Diseases <div> <div>Number of competencies: (18)</div> <div>Number of procedures that require certification:(NIL)</div> </div>									
PE23.1	Discuss the Hemodynamic changes, clinical presentation, complications and management of Acyanotic Heart Diseases –VSD, ASD and PDA	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE23.2	Discuss the Hemodynamic changes, clinical presentation, complications and management of Cyanotic Heart Diseases – Fallot’s Physiology	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
PE23.3	Discuss the etio-pathogenesis, clinical presentation and management of cardiac failure in infant and children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
PE23.4	Discuss the etio-pathogenesis, clinical presentation and management of Acute Rheumatic Fever in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
PE23.5	Discuss the clinical features, complications, diagnosis, management and prevention of Acute Rheumatic Fever	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology	
PE23.6	Discuss the etio-pathogenesis, clinical features and management of Infective endocarditis in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Pathology, Microbiology	
PE23.7	Elicit appropriate history for a cardiac disease, analyse the symptoms e.g. breathlessness, chest pain, tachycardia, feeding difficulty, failing to thrive, reduced urinary output, swelling, syncope, cyanotic spells, Suck rest cycle, frontal swelling in infants. Document and present	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment			
PE23.8	Identify external markers of a cardiac disease e.g. Cyanosis, Clubbing, dependent edema, dental caries, arthritis, erythema rash, chorea, subcutaneous nodules, Osler's node, Janeway lesions and document	S	SH	Y	Bedside clinics, Skills Lab	Skill Assessment			
PE23.9	Record pulse, blood pressure, temperature and respiratory rate and interpret as per the age	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment			
PE23.10	Perform independently examination of the cardiovascular system – look for precordial bulge, pulsations in the precordium, JVP and its significance in children and infants, relevance of percussion in Pediatric examination, Auscultation and other system examination and document	S	SH	Y	Bedside clinics, Skills lab	Skill station			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE23.11	Develop a treatment plan and prescribe appropriate drugs including fluids in cardiac diseases, anti -failure drugs, and inotropic agents	S	SH	Y	Bedside clinics, Skills lab	log book			
PE23.12	Interpret a chest X ray and recognize Cardiomegaly	S	SH	Y	Bedside clinics, Skills lab	Log book entry		Radiodiagnosis	
PE23.13	Choose and Interpret blood reports in Cardiac illness	S	P	Y	Bedside clinics, Small group discussion	Log book entry			
PE23.14	Interpret Pediatric ECG	S	SH	Y	Bedside clinics, Skills lab	Log book entry			
PE23.15	Use the ECHO reports in management of cases	S	SH	Y	Bedside clinics	Log book entry		Radiodiagnosis	
PE23.16	Discuss the indications and limitations of Cardiac catheterization	K	K	N	Small group discussion	Viva voce			
PE23.17	Enumerate some common cardiac surgeries like BT shunt, Potts and Waterston's and corrective surgeries	K	K	N	Small group discussion	Viva voce			
PE23.18	Demonstrate empathy while dealing with children with cardiac diseases in every patient encounter	A	SH	Y	Small group discussion	Document in Log Book		AETCOM	
Topic:Diarrhoeal diseases and Dehydration Number of competencies: (17) Number of procedures that require certification:(03)									
PE24.1	Discuss the etio-pathogenesis, classification, clinical presentation and management of diarrheal diseases in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	
PE24.2	Discuss the classification and clinical presentation of various types of diarrheal dehydration	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE24.3	Discuss the physiological basis of ORT, types of ORS and the composition of various types of ORS	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE24.4	Discuss the types of fluid used in Paediatric diarrheal diseases and their composition	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE24.5	Discuss the role of antibiotics, antispasmodics, anti-secretory drugs, probiotics, anti-emetics in acute diarrheal diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Microbiology	
PE24.6	Discuss the causes, clinical presentation and management of persistent diarrhoea in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE24.7	Discuss the causes, clinical presentation and management of chronic diarrhoea in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE24.8	Discuss the causes, clinical presentation and management of dysentery in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology, Microbiology	
PE24.9	Elicit, document and present history pertaining to diarrheal diseases	S	SH	Y	Bedside clinics, Skills lab	Skill assessment			
PE24.10	Assess for signs of dehydration, document and present	S	SH	Y	Bedside clinics, Skills lab	Skill assessment			
PE24.11	Apply the IMNCI guidelines in risk stratification of children with diarrheal dehydration and refer	S	SH	Y	Bedside clinics, Skills lab	Document in Log book			
PE24.12	Perform and interpret stool examination including Hanging Drop	S	SH	N	Bedside clinics, Skills lab	Log book		Microbiology	
PE24.13	Interpret RFT and electrolyte report	S	SH	Y	Bedside clinics, Small group discussion	Document in Log Book			
PE24.14	Plan fluid management as per the WHO criteria	S	SH	Y	Bedside clinics, Small group activity	Skills Station			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE24.15	Perform NG tube insertion in a manikin	S	P	Y	DOAP session	Document in Log book	2		
PE24.16	Perform IV cannulation in a model	S	P	Y	DOAP session	Document in Log book	2		
PE24.17	Perform Interosseous insertion model	S	P	Y	DOAP session	Document in Log book	2		
Topic: Malabsorption Number of competencies: (01) Number of procedures that require certification:(NIL)									
PE25.1	Discuss the etio-pathogenesis, clinical presentation and management of Malabsorption in Children and its causes including celiac disease	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
Topic: Acute and chronic liver disorders Number of competencies: (13) Number of procedures that require certification: (NIL)									
PE26.1	Discuss the etio-pathogenesis, clinical features and management of acute hepatitis in children	K	KH	Y	Lecture, Small group activity	Written/ Viva voce		Pathology, Microbiology	
PE26.2	Discuss the etio-pathogenesis, clinical features and management of Fulminant Hepatic Failure in children	K	KH	Y	Lecture, Small group activity	Written/ Viva voce		Pathology, Microbiology	
PE26.3	Discuss the etio-pathogenesis, clinical features and management of chronic liver diseases in children	K	KH	Y	Lecture, Small group activity	Written/ Viva voce		Pathology, Microbiology	
PE26.4	Discuss the etio-pathogenesis, clinical features and management of Portal Hypertension in children	K	KH	Y	Lecture, Small group activity	Written/ Viva voce		Pathology	
PE26.5	Elicit document and present the history related to diseases of Gastrointestinal system	S	SH	Y	Bedside clinics, Skills lab	Skills Station			
PE26.6	Identify external markers for GI and Liver disorders e.g.. Jaundice, Pallor, Gynaecomastia, Spider angioma, Palmar erythema, Icthyosis, Caput medusa, Clubbing, Failing to thrive, Vitamin A and D deficiency	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE26.7	Perform examination of the abdomen, demonstrate organomegaly, ascites etc.	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment			
PE26.8	Analyse symptoms and interpret physical signs to make a provisional/ differential diagnosis	S	SH	Y	Bedside clinics, Skill lab	Skill Assessment			
PE26.9	Interpret Liver Function Tests, viral markers, ultra sonogram report	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment		Pathology	
PE26.10	Demonstrate the technique of liver biopsy in a Perform Liver Biopsy in a simulated environment	S	SH	Y	DOAP session	Document in log book			
PE26.11	Enumerate the indications for Upper GI endoscopy	K	K	N	Small group discussion	Viva voce			
PE26.12	Discuss the prevention of Hep B infection – Universal precautions and Immunisation	K	KH	Y	Lecture, Small group activity	Written/ Viva voce		Microbiology	
PE26.13	Counsel and educate patients and their family appropriately on liver diseases	A/C	P	y	Bedside clinics, Skills lab	Document in log book			
Topic: Pediatric Emergencies – Common Pediatric Emergencies Number of competencies: (35) Number of procedures that require certification:(10)									
PE27.1	List the common causes of morbidity and mortality in the under five children	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.2	Describe the etio-pathogenesis, clinical approach and management of cardiorespiratory arrest in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.3	Describe the etio-pathogenesis of respiratory distress in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE27.4	Describe the clinical approach and management of respiratory distress in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.5	Describe the etio-pathogenesis, clinical approach and management of Shock in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.6	Describe the etio-pathogenesis, clinical approach and management of Status epilepticus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.7	Describe the etio-pathogenesis, clinical approach and management of an unconscious child	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.8	Discuss the common types, clinical presentations and management of poisoning in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.9	Discuss oxygen therapy, in Pediatric emergencies and modes of administration	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.10	Observe the various methods of administering Oxygen	S	KH	Y	Demonstration	Document in log book			
PE27.11	Explain the need and process of triage of sick children brought to health facility	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.12	Enumerate emergency signs and priority signs	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.13	List the sequential approach of assessment of emergency and priority signs	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.14	Assess emergency signs and prioritize	S	SH	Y	DOAP session, Skills lab	Skills Assessment			
PE27.15	Assess airway and breathing: recognise signs of severe respiratory distress. Check for cyanosis, severe chest indrawing, grunting	S	P	Y	DOAP session, Skills lab	Skills Assessment	3		

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE27.16	Assess airway and breathing. Demonstrate the method of positioning of an infant & child to open airway in a simulated environment	S	P	Y	DOAP session, Skills Lab	Skills Assessment	3		
PE27.17	Assess airway and breathing: administer oxygen using correct technique and appropriate flow rate	S	P	Y	DOAP session, Skills Lab	Skills Assessment	3		
PE27.18	Assess airway and breathing: perform assisted ventilation by Bag and mask in a simulated environment	S	P	Y	DOAP session, Skills lab	Skills Assessment	3		
PE27.19	Check for signs of shock i.e. pulse, Blood pressure, CRT	S	P	Y	DOAP session, Skills Lab	Skills Assessment	3		
PE27.20	Secure an IV access in a simulated environment	S	P	Y	DOAP session, Skills Lab	Skills Assessment	3		
PF27.21	Choose the type of fluid and calculate the fluid requirement in shock	S	P	Y	DOAP session, Small group activity	Skills Assessment	3		
PE27.22	Assess level of consciousness & provide emergency treatment to a child with convulsions/ coma - Position an unconscious child - Position a child with suspected trauma - Administer IV/per rectal Diazepam for a convulsing child in a simulated environment	S	P	Y	DOAP session, Skills Lab	Skills Assessment	3		
PE27.23	Assess for signs of severe dehydration	S	P	Y	Bedside clinics, Skills lab	Skill station	3		
PE27.24	Monitoring and maintaining temperature: define hypothermia. Describe the clinical features, complications and management of Hypothermia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.25	Describe the advantages and correct method of keeping an infant warm by skin to skin contact	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE27.26	Describe the environmental measures to maintain temperature	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.27	Assess for hypothermia and maintain temperature	S	SH	Y	Skills lab	Skills Assessment			
PE27.28	Provide BLS for children in manikin	S	P	Y	Skills Lab		3		
PE.27.29	Discuss the common causes, clinical presentation, medico-legal implications of abuse	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE27.30	Demonstrate confidentiality with regard to abuse	A	SH	Y	Skills lab, standardized patients	Skills Station			
PE27.31	Assess child for signs of abuse	S	SH	Y	DOAP session, Skills lab	Log book			
PE27.32	Counsel parents of dangerously ill / terminally ill child to break a bad news	S	SH	Y	DOAP session	Document in Log book			
PE27.33	Obtain Informed Consent	S	SH	Y	DOAP session	Document in Log book			
PE27.34	Willing to be a part of the ER team	A	SH	Y	DOAP session	Document in Log book			
PE27.35	Attends to emergency calls promptly	A	SH	Y	DOAP session	Document in Log Book			
Topic: Respiratory system Number of competencies: (20) Number of procedures that require certification: (NIL)									
PE28.1	Discuss the etio-pathogenesis, clinical features and management of Naso pharyngitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.2	Discuss the etio-pathogenesis of Pharyngo Tonsillitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE28.3	Discuss the clinical features and management of Pharyngo Tonsillitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.4	Discuss the etio-pathogenesis, clinical features and management of Acute Otitis Media (AOM)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.5	Discuss the etio-pathogenesis, clinical features and management of Epiglottitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.6	Discuss the etio-pathogenesis, clinical features and management of Acute laryngo- trachea-bronchitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.7	Discuss the etiology, clinical features and management of Stridor in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.8	Discuss the types, clinical presentation, and management of foreign body aspiration in infants and children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.9	Elicit, document and present age appropriate history of a child with upper respiratory problem including Stridor	S	SH	Y	Bedside clinics, skill lab	Skill Assessment		ENT	
PE28.10	Perform otoscopic examination of the ear	S	SH	Y	DOAP session	Skills Assessment		ENT	
PE28.11	Perform throat examination using tongue depressor	S	SH	Y	DOAP session	Skills Assessment		ENT	
PE28.12	Perform examination of the nose	S	SH	Y	DOAP session	Skills Assessment		ENT	
PE28.13	Analyse the clinical symptoms and interpret physical findings and make a provisional / differential diagnosis in a child with ENT symptoms	S	SH	Y	Bedside clinics	Skills Assessment			
PE28.14	Develop a treatment plan and document appropriately in a child with upper respiratory symptoms	S	SH	Y	Bedside clinics	Skills Assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE28.15	Stratify risk in children with stridor using IMNCI guidelines	S	SH	Y	Bedside clinics	Log book documentation			
PE28.16	Interpret blood tests relevant to upper respiratory problems	S	SH	N	Bedside clinics, Small group discussion	Log book			
PE28.17	Interpret X-ray of the paranasal sinuses and mastoid; and /or use written report in case of management Interpret CXR in foreign body aspiration and lower respiratory tract infection, understand the significance of thymic shadow in pediatric chest X-rays	S	SH	Y	Bedside clinics, Small group discussion	Skills Assessment		ENT, Radiodiagnosis	
PE28.18	Describe the etio-pathogenesis, diagnosis, clinical features, management and prevention of lower respiratory infections including bronchiolitis, wheeze associated LRTI Pneumonia and empyema	S	SH	Y	Bedside clinics, Small group discussion, Lecture	Skill Assessment/ Written/ Viva voce			
PE28.19	Describe the etio-pathogenesis, diagnosis, clinical features, management and prevention of asthma in children	S	SH	Y	Bedside clinics, Small group discussion, Lecture	Skill Assessment/ Written/ Viva voce		Respiratory Medicine	
PE28.20	Counsel the child with asthma on the correct use of inhalers in a simulated environment	S	SH	Y	Bedside clinics, Small group discussion, Lecture	Skills Assessment/ Written/ Viva voce		Respiratory Medicine	
Topic: Anemia and other Hemato-oncologic disorders in children Number of competencies: (20) Number of procedures that require certification: (NIL)									
PE29.1	Discuss the etio-pathogenesis, clinical features, classification and approach to a child with anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
PE29.2	Discuss the etio-pathogenesis, clinical features and management of Iron Deficiency anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE29.3	Discuss the etiopathogenesis, clinical features and management of VIT B12, Folate deficiency anaemia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
PE29.4	Discuss the etio-pathogenesis, clinical features and management of Hemolytic anemia, Thalassemia Major, Sickle cell anaemia, Hereditary spherocytosis, Auto-immune hemolytic anaemia and hemolytic uremic syndrome	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
PE29.5	Discuss the National Anaemia Control Program	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
PE29.6	Discuss the cause of thrombocytopenia in children: describe the clinical features and management of Idiopathic Thrombocytopenic Purpura (ITP)	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE29.7	Discuss the etiology, classification, pathogenesis and clinical features of Hemophilia in children	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE29.8	Discuss the etiology, clinical presentation and management of Acute Lymphoblastic Leukemia in children	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE29.9	Discuss the etiology, clinical presentation and management of lymphoma in children	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	
PE29.10	Elicit, document and present the history related to Hematology	S	SH	Y	Bedside clinics, Skills lab	Skills Station			
PE29.11	Identify external markers for hematological disorders e.g.. Jaundice, Pallor, Petechiae purpura, Ecchymosis, Lymphadenopathy, bone tenderness, loss of weight, Mucosal and large joint bleed	S	SH	Y	Bedside clinics, Skills lab	Skill assessment			
PE29.12	Perform examination of the abdomen, demonstrate organomegaly	S	SH	Y	Bedside clinics, Skills lab	Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE29.13	Analyse symptoms and interpret physical signs to make a provisional/ differential diagnosis	S	SH	Y	Bedside clinics, Skill lab	Skill assessment			
PE29.14	Interpret CBC, LFT	S	SH	Y	Bedside clinics, Skills lab	Skill assessment			
PE29.15	Perform and interpret peripheral smear	S	SH	Y	DOAP session	Document in log book			
PE29.16	Discuss the indications for Hemoglobin electrophoresis and interpret report	K	K	N	Small group discussion	Viva voce		Biochemistry	
PE29.17	Demonstrate performance of bone marrow aspiration in manikin	S	SH	Y	Skills lab	Document in log Book			
PE29.18	Enumerate the referral criteria for Hematological conditions	S	SH	Y	Bedside clinics, Small group activity	Viva voce			
PE29.19	Counsel and educate patients about prevention and treatment of anemia	A/C	SH	Y	Bedside clinics, Skills lab	Document in log book			
PE29.20	Enumerate the indications for splenectomy and precautions	K	K	N	Small group Activity	Viva voce			
Topic: Systemic Pediatrics-Central Nervous system Number of competencis: (23) Number of procedures that require certification:(NIL)									
PE30.1	Discuss the etio-pathogenesis, clinical features , complications, management and prevention of meningitis in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE30.2	Distinguish bacterial, viral and tuberculous meningitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE30.3	Discuss the etio-pathogenesis, classification, clinical features, complication and management of Hydrocephalus in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE30.4	Discuss the etio-pathogenesis, classification, clinical features, and management of Microcephaly in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE30.5	Enumerate the Neural tube defects. Discuss the causes, clinical features, types, and management of Neural Tube defect	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE30.6	Discuss the etio-pathogenesis, clinical features, and management of Infantile hemiplegia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE30.7	Discuss the etio-pathogenesis, clinical features, complications and management of Febrile seizures in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE30.8	Define epilepsy. Discuss the pathogenesis, clinical types, presentation and management of Epilepsy in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE30.9	Define status Epilepticus. Discuss the clinical presentation and management	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE30.10	Discuss the etio-pathogenesis, clinical features and management of Mental retardation in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE30.11	Discuss the etio-pathogenesis, clinical features and management of children with cerebral palsy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE30.12	Enumerate the causes of floppiness in an infant and discuss the clinical features, differential diagnosis and management	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE30.13	Discuss the etio-pathogenesis, clinical features, management and prevention of Poliomyelitis in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE30.14	Discuss the etio-pathogenesis, clinical features and management of Duchene muscular dystrophy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE30.15	Discuss the etio-pathogenesis, clinical features and management of Ataxia in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE30.16	Discuss the approach to and management of a child with headache	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE30.17	Elicit document and present an age appropriate history pertaining to the CNS	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment			
PE30.18	Demonstrate the correct method for physical examination of CNS including identification of external markers. Document and present clinical findings	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment			
PE30.19	Analyse symptoms and interpret physical findings and propose a provisional / differential diagnosis	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment			
PE30.20	Interpret and explain the findings in a CSF analysis	S	SH	Y	Small group discussion	Log book		Microbiology	
PE30.21	Enumerate the indication and discuss the limitations of EEG, CT, MRI	K	K	N	Bedside clinics	Log book			
PE30.22	Interpret the reports of EEG, CT, MRI	S	SH	Y	Bedside clinics, Skills lab	Log book		Radiodiagnosis	
PE30.23	Perform in a mannequin lumbar puncture. Discuss the indications, contraindication of the procedure	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment			

Topic: Allergic Rhinitis , Atopic Dermatitis, Bronchial Asthma , Urticaria Angioedema

Number of competencies: (12)

Number of procedures that require certification: (NIL)

PE31.1	Describe the etio-pathogenesis, management and prevention of Allergic Rhinitis in Children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE31.2	Recognize the clinical signs of Allergic Rhinitis	S	SH	Y	Bedside clinics' Skill Lab	Skill Assessment		ENT	
PE31.3	Describe the etio-pathogenesis, clinical features and management of Atopic dermatitis in Children	K	KH	Y	Lecture Small group discussion	Written/ Viva voce		ENT	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE31.4	Identify Atopic dermatitis and manage	S	SH		Bedside clinics Skills lab	Skill Assessment		Dermatology, Venereology & Leprosy	
PE31.5	Discuss the etio-pathogenesis, clinical types, presentations, management and prevention of childhood Asthma	K	KH	Y	Lecture Small group discussion	Written/ Viva voce			
PE31.6	Recognise symptoms and signs of Asthma	S	SH	Y	Bedside clinic, Small group activity	Skill Assessment			
PE31.7	Develop a treatment plan for Asthma appropriate to clinical presentation & severity	S	SH	Y	Bedside clinic, Small group activity	Skill Assessment			
PE31.8	Enumerate criteria for referral	K	KH	Y	Bedside clinic, Small group activity	Written/ Viva voce			
PE31.9	Interpret CBC and CX Ray in Asthma	S	SH	Y	Bedside clinic, Small group activity	Skill Assessment			
PE31.10	Enumerate the indications for PFT	K	K	N	Bedside clinic, Small group activity	Viva voce			
PE31.11	Observe administration of Nebulisation	S	SH	Y	DOAP session	Document in log book			
PE31.12	Discuss the etio-pathogenesis, clinical features and complications and management of Urticaria Angioedema	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Chromosomal Abnormalities Number of competencies: (13) Number of procedures that require certification: (NIL)									
PE32.1	Discuss the genetic basis, risk factors, complications, prenatal diagnosis, management and genetic counselling in Down's Syndrome	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE32.2	Identify the clinical features of Down's Syndrome	S	SH	Y	Bedside clinics, Skills lab	log book		General Medicine	
PE32.3	Interpret normal Karyotype and recognize Trisomy 21	S	SH	Y	Bedside clinics, Skills lab	Log book			General Medicine
PE32.4	Discuss the referral criteria and Multidisciplinary approach to management	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE32.5	Counsel parents regarding 1. Present child 2. Risk in the next pregnancy	A/C	SH	N	Bedside clinics, Skills lab	Log book			
PE32.6	Discuss the genetic basis, risk factors, clinical features, complications, prenatal diagnosis, management and genetic counselling in Turner's Syndrome	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Obstetrics & Gynaecology	
PE32.7	Identify the clinical features of Turner Syndrome	S	SH	N	Bedside clinics, Skills lab	Log book		General Medicine	
PE32.8	Interpret normal Karyotype and recognize the Turner Karyotype	S	SH	N	Bedside clinics, Skills lab	log book		General Medicine, Obstetrics & Gynaecology	
PE32.9	Discuss the referral criteria and multidisciplinary approach to management of Turner Syndrome	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Obstetrics & Gynaecology
PE32.10	Counsel parents regarding 1. Present child 2. Risk in the next pregnancy	A/C	SH	N	Bedside clinics, Skills lab	Log book			
PE32.11	Discuss the genetic basis, risk factors, complications, prenatal diagnosis, management and genetic counselling in Klinefelter Syndrome	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE32.12	Identify the clinical features of Klinefelter Syndrome	S	SH	N	Bedside clinics, Skills lab	Log book		General Medicine	
PE32.13	Interpret normal Karyotype and recognize the Klinefelter Karyotype	S	SH	N	Bedside clinics, Skills lab	Log book		General Medicine	
Topic: Endocrinology Number of competencies: (11) Number of procedures that require certification: (02)									
PE33.1	Describe the etio-pathogenesis clinical features, management of Hypothyroidism in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PE33.2	Recognize the clinical signs of Hypothyroidism and refer	S	SH	Y	Bedside clinics, Skill Lab	Skill Assessment			
PE33.3	Interpret and explain neonatal thyroid screening report	S	SH	Y	Bedside clinics, Small group discussion	Skill Assessment			
PE33.4	Discuss the etio-pathogenesis, clinical types, presentations, complication and management of Diabetes mellitus in children	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce			
PE33.5	Interpret Blood sugar reports and explain the diagnostic criteria for Type 1 Diabetes	S	SH	Y	Bedside clinic, small group activity	Skill Assessment			
PE33.6	Perform and interpret Urine Dip Stick for Sugar	S	P	Y	DOAP session	Skill Assessment	3	Biochemistry	
PE33.7	Perform genital examination and recognize Ambiguous Genitalia and refer appropriately	S	SH	Y	Bedside clinic Skills lab	Skill Assessment			
PE33.8	Define precocious and delayed Puberty	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE33.9	Perform Sexual Maturity Rating (SMR) and interpret	S	SH	Y	Bedside clinics Skills Lab	Skill Assessment			
PE33.10	Recognize precocious and delayed Puberty and refer	S	SH	Y	Bedside clinics Skills Lab	log book			
PE33.11	Identify deviations in growth and plan appropriate referral	S	P	Y	Bedside clinics Skills Lab	log book	2		
Topic:Vaccine preventable Diseases - Tuberculosis Number of competencies: (20) Number of procedures that require certification: (03)									
PE34.1	Discuss the epidemiology, clinical features, clinical types, complications of Tuberculosis in Children and Adolescents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	Respiratory Medicine
PE34.2	Discuss the various diagnostic tools for childhood tuberculosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	Respiratory Medicine
PE34.3	Discuss the various regimens for management of Tuberculosis as per National Guidelines	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Community Medicine, Pharmacology	Respiratory Medicine
PE34.4	Discuss the preventive strategies adopted and the objectives and outcome of the National Tuberculosis Control Program	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Community Medicine, Pharmacology	Respiratory Medicine
PE34.5	Able to elicit, document and present history of contact with tuberculosis in every patient encounter	S	SH	Y	Bedside clinics, Skill lab	Skill Assessment			Respiratory Medicine
PE34.6	Identify a BCG scar	S	P	Y	Bedside clinics, Skills lab	Skill Assessment	3	Microbiology	Respiratory Medicine
PE34.7	Interpret a Mantoux test	S	P	Y	Bedside clinics Skills lab	Skill assessment	3	Microbiology	Respiratory Medicine
PE34.8	Interpret a Chest Radiograph	S	SH	Y	Bedside clinics Skills lab	Skill assessment		Radiodiagnosis	Respiratory Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE34.9	Interpret blood tests in the context of laboratory evidence for tuberculosis	S	SH	N	Bedside clinics, Small group discussion	log book		Microbiology	Respiratory Medicine
PE34.10	Discuss the various samples for demonstrating the organism e.g. Gastric Aspirate, Sputum , CSF, FNAC	K	KH	Y	Bedside clinics, Small group discussion	Written/ Viva voce		Microbiology	Respiratory Medicine
PE34.11	Perform AFB staining	S	P	Y	DOAP session	Log book/Journal	3	Microbiology	Respiratory Medicine
PE34.12	Enumerate the indications and discuss the limitations of methods of culturing M.Tuberculi	K	KH	Y	Small group discussion	Written/ Viva voce		Microbiology	Respiratory Medicine
PE34.13	Enumerate the newer diagnostic tools for Tuberculosis including BACTEC CBNAAT and their indications	K	K	N	Lecture, Small group discussion	Written/ Viva voce			
PE34.14	Enumerate the common causes of fever and discuss the etiopathogenesis, clinical features, complications and management of fever in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE34.15	Enumerate the common causes of fever and discuss the etiopathogenesis, clinical features, complications and management of child with exanthematous illnesses like Measles, Mumps, Rubella & Chicken pox	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE34.16	Enumerate the common causes of fever and discuss the etiopathogenesis, clinical features, complications and management of child with Diphtheria, Pertussis, Tetanus.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE34.17	Enumerate the common causes of fever and discuss the etiopathogenesis, clinical features, complications and management of child with Typhoid	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PE34.18	Enumerate the common causes of fever and discuss the etiopathogenesis, clinical features, complications and management of child with Dengue, Chikungunya and other vector born diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE34.19	Enumerate the common causes of fever and discuss the etiopathogenesis, clinical features, complications and management of children with Common Parasitic infections, malaria, leishmaniasis, filariasis, helminthic infestations, amebiasis, giardiasis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
PE34.20	Enumerate the common causes of fever and discuss the etiopathogenesis, clinical features, complications and management of child with Rickettsial diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
Topic: The role of the physician in the community									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN25.5	Describe developmental basis of congenital anomalies, transposition of great vessels, dextrocardia, patent ductus arteriosus and coarctation of aorta	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics	Physiology
AN25.9	Demonstrate surface marking of lines of pleural reflection, Lung borders and fissures, Trachea, Heart borders, Apex beat & surface projection of valves of heart	K/S	SH	Y	Practical	Viva voce/ skill assessment		General Medicine, Pediatrics	Physiology
AN63.2	Describe anatomical basis of congenital hydrocephalus	K	KH	N	Lecture	Written		Pediatrics	Physiology
AN64.3	Describe various types of open neural tube defects with its embryological basis	K	KH	N	Lecture	Written/ Viva voce		Obstetrics & Gynaecology, Pediatrics	
AN74.1	Describe the various modes of inheritance with examples	K	KH	Y	Lecture	Written		General Medicine, Pediatrics	
AN74.2	Draw pedigree charts for the various types of inheritance & give examples of diseases of each mode of inheritance	K	KH	Y	Lecture	Written		General Medicine, Pediatrics	
AN74.4	Describe the genetic basis & clinical features of Achondroplasia, Cystic Fibrosis, Vitamin D resistant rickets, Hemophilia, Duchene's muscular dystrophy & Sickle cell anaemia	K	KH	N	Lecture	Written		General Medicine, Pediatrics	
AN75.1	Describe the structural and numerical chromosomal aberrations	K	KH	Y	Lecture	Written		Pediatrics	
AN75.2	Explain the terms mosaics and chimeras with example	K	KH	N	Lecture	Written		Pediatrics	
AN75.3	Describe the genetic basis & clinical features of Prader Willi syndrome, Edward syndrome & Patau syndrome	K	KH	N	Lecture	Written		Pediatrics	
AN75.4	Describe genetic basis of variation; polymorphism and mutation	K	KH	Y	Lecture	Written		Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
AN75.5	Describe the principles of genetic counselling	K	KH	Y	Lecture	Written		Pediatrics, Obstetrics & Gynaecology	
Physiology									
PY11.6	Describe physiology of Infancy	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PY11.9	Interpret growth charts	K	KH	Y	Small group teaching	Practical/OSPE/ Viva voce		Pediatrics	
PY11.10	Interpret anthropometric assessment of infants	K	KH	Y	Small group teaching	Practical/OSPE/Viva voce		Pediatrics	
Biochemistry									
BI5.3	Describe the digestion and absorption of dietary proteins	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
BI5.4	Describe common disorders associated with protein metabolism	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
BI7.3	Describe gene mutations and basic mechanism of regulation of gene expression	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
BI7.4	Describe applications of recombinant DNA technology, PCR in the diagnosis and treatment of diseases with genetic basis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics, General Medicine	
BI8.1	Discuss the importance of various dietary components and explain importance of dietary fibre	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics, Pathology	
BI8.2	Describe the types and causes of protein energy malnutrition and its effects	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics, Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
BI8.5	Summarize the nutritional importance of commonly used items of food including fruits and vegetables. (macro-molecules & its importance)	K	KH	Y	Lecture , Small group discussion	Written/ Viva voce		Community Medicine, General Medicine, Pediatrics	
BI10.5	Describe antigens and concepts involved in vaccine development	K	KH	Y	Lecture , Small group discussion	Written/ Viva voce		Pathology, Pediatrics, Microbiology	
Pathology									
PA12.2	Describe the pathogenesis of disorders caused by protein calorie malnutrition and starvation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Pediatrics	
PA21.2	Classify and describe the etiology, pathogenesis and pathology of vascular and platelet disorders including ITP and hemophilias	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PA28.12	Define, classify and describe the genetics, inheritance etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features, progression and complications of cystic disease of the kidney	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics	
PA28.14	Classify and describe the etiology, genetics, pathogenesis, pathology, presenting features, progression and spread of renal tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PA31.4	Enumerate and describe the etiology, hormonal dependency and pathogenesis of gynecomastia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pediatrics, General Medicine	
PA35.2	Classify and describe the etiology, genetics, pathogenesis, pathology, presentation sequelae and complications of CNS tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
Microbiology									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
MI1.8	Describe the mechanisms of immunity and response of the host immune system to infections	K	KH	Y	Lecture	Written/ Viva voce		Pediatrics	Pathology
MI1.9	Discuss the immunological basis of vaccines and describe the Universal Immunisation schedule	K	KH	Y	Lecture	Written/ Viva voce		Paediatrics	
MI1.10	Describe the immunological mechanisms in immunological disorder (hypersensitivity, autoimmune disorders and immunodeficiency states) and discuss the laboratory methods used in detection	K	KH	Y	Lecture	Written/ Viva voce		Paediatrics	
MI3.1	Enumerate the microbial agents causing diarrhea and dysentery. Describe the epidemiology, morphology, pathogenesis, clinical features, and diagnostic modalities of these agents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Paediatrics	Pathology
MI3.2	Identify the common etiologic agents of diarrhea and dysentery	S	SH	Y	DOAP session	Skill assessment		General Medicine, Paediatrics	
MI5.1	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of meningitis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Paediatrics	Pathology
MI5.2	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of encephalitis	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Paediatrics	Pathology
MI5.3	Identify the microbial agents causing meningitis	S	SH	Y	DOAP session	Skill assessment		General Medicine, Paediatrics	
Pharmacology									
PH1.12	Calculate the dosage of drugs using appropriate formulae for an individual patient, including children, elderly and patient with renal dysfunction	K/S	SH	Y	Lecture, practical	Written/ Viva voce		Pediatrics, General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
PH1.43	Describe and discuss the rational use of antimicrobials including antibiotic stewardship program	K	KH	Y	Lecture	Written/ Viva voce		General Medicine Pediatrics	Microbiology
PH1.56	Describe basic aspects of Geriatric and Pediatric pharmacology	K	KH	Y	Lecture	Written/ Viva voce		Pediatrics	
PH2.4	Demonstrate the correct method of calculation of drug dosage in patients including those used in special situations	S	SH	Y	DOAP sessions	Skills assessment		Pharmacology, General Medicine	
Community Medicine									
CM3.3	Describe the aetiology and basis of water borne diseases /jaundice/hepatitis/ diarrheal diseases	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Microbiology, General Medicine, Pediatrics	
CM5.1	Describe the common sources of various nutrients and special nutritional requirements according to age, sex, activity, physiological conditions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics	
CM5.2	Describe and demonstrate the correct method of performing a nutritional assessment of individuals, families and the community by using the appropriate method	S	SH	Y	DOAP session	Skill Assessment		General Medicine, Pediatrics	
CM5.3	Define and describe common nutrition related health disorders (including macro-PEM, Micro-iron, Zn, iodine, Vit. A), their control and management.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics	
CM5.4	Plan and recommend a suitable diet for the individuals and families based on local availability of foods and economic status, etc in a simulated environment	S	SH	Y	DOAP session	Skill Assessment		General Medicine, Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CM5.5	Describe the methods of nutritional surveillance, principles of nutritional education and rehabilitation in the context of socio-cultural factors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics	
CM5.6	Enumerate and discuss the National Nutrition Policy, important national nutritional Programs including the Integrated Child Development Services Scheme (ICDS) etc	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
CM5.8	Describe and discuss the importance and methods of food fortification and effects of additives and adulteration	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
CM6.1	Formulate a research question for a study	K	KH	Y	Small group, Lecture, DOAP session	Written/ Viva voce/ Skill Assessment		General Medicine, Pediatrics	
CM6.2	Describe and discuss the principles and demonstrate the methods of collection, classification, analysis, interpretation and presentation of statistical data	S	SH	Y	Small group discussion, Lecture, DOAP session	Written/ Viva voce/ Skill Assessment		General Medicine, Pediatrics	
CM6.3	Describe, discuss and demonstrate the application of elementary statistical methods including test of significance in various study designs	S	SH	Y	Small group discussion, Lecture, DOAP session	Written/ Viva voce/ Skill Assessment		General Medicine, Pediatrics	
CM6.4	Enumerate, discuss and demonstrate common sampling techniques, simple statistical methods, frequency distribution, measures of central tendency and dispersion	S	SH	Y	Small group discussion, Lecture, DOAP session	Written/ Viva voce/ Skill Assessment		General Medicine, Pediatrics	
CM8.1	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for communicable diseases	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		General Medicine, Pediatrics	Microbiology, Pathology
CM8.3	Enumerate and describe disease specific National Health Programs including their prevention and treatment of a case	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		General Medicine, Pediatrics	
CM8.4	Describe the principles and enumerate the measures to control a disease epidemic	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		General Medicine, Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
CM8.5	Describe and discuss the principles of planning, implementing and evaluating control measures for disease at community level bearing in mind the public health importance of the disease	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		General Medicine, Pediatrics	
CM9.2	Define, calculate and interpret demographic indices including birth rate, death rate, fertility rates	S	SH	Y	Lecture, Small group discussion, DOAP sessions	Skill assessment		Obstetrics & Gynaecology, Pediatrics	
CM10.1	Describe the current status of Reproductive, maternal, newborn and Child Health	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		Obstetrics & Gynaecology, Pediatrics	
CM10.2	Enumerate and describe the methods of screening high risk groups and common health problems	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		Obstetrics & Gynaecology, Pediatrics	
CM10.3	Describe local customs and practices during pregnancy, childbirth, lactation and child feeding practices	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		Obstetrics & Gynaecology, Pediatrics	
CM10.4	Describe the reproductive, maternal, newborn & child health (RMCH); child survival and safe motherhood interventions	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		Obstetrics & Gynaecology, Pediatrics	
CM10.5	Describe Universal Immunization Program; Integrated Management of Neonatal and Childhood Illness (IMNCI) and other existing Programs	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		Pediatrics	
Forensic Medicine & Toxicology									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
FM1.9	Describe the importance of documentation in medical practice in regard to medicolegal examinations, Medical Certificates and medicolegal reports especially – maintenance of patient case records, discharge summary, prescribed registers to be maintained in Health Centres. -- maintenance of medico-legal register like accident register. -- documents of issuance of wound certificate -- documents of issuance of drunkenness certificate. -- documents of issuance of sickness and fitness certificate. -- documents for issuance of death certificate. -- documents of Medical Certification of Cause of Death - Form Number 4 and 4A -- documents for estimation of age by physical, dental and radiological examination and issuance of certificate	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Radiodiagnosis, General Surgery, General Medicine, Paediatrics	
FM2.27	Define and discuss infanticide, foeticide and stillbirth	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Pediatrics	
FM2.28	Describe and discuss signs of intrauterine death, signs of live birth, viability of foetus, age determination of foetus, DOAP session of ossification centres, Hydrostatic test, Sudden infants death syndrome and Munchausen's syndrome by proxy	K	KH	Y	Lecture, Small group discussions, Autopsy, DOAP session	Written/ Viva voce/ OSCE		Pediatrics, Human Anatomy	
FM3.29	Describe and discuss child abuse and battered baby syndrome	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
Dermatology, Venereology & Leprosy									
DR5.1	Describe the etiology, microbiology, pathogenesis, natural history, clinical features, presentations and complications of scabies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
DR5.2	Identify and differentiate scabies from other lesions	S	SH	Y	Bedside clinic	Skill assessment		Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
DR5.3	Enumerate and describe the pharmacology, administration and adverse reaction of pharmacotherapies for scabies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Pharmacology
DR6.1	Describe the etiology, pathogenesis and diagnostic features of pediculosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Microbiology
DR6.2	Identify and differentiate pediculosis from other skin lesions	S	SH	Y	Bedside clinic	Skill assessment		Pediatrics	
DR7.1	Describe the etiology, microbiology, pathogenesis, clinical presentations and diagnostic features of dermatophytes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Microbiology
DR8.1	Describe the etiology, microbiology, pathogenesis, clinical presentations and diagnostic features of common viral infections of the skin	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Microbiology
DR17.1	Enumerate and identify the cutaneous findings in vitamin A deficiency	K/S	SH	Y	Lecture, Small group discussion, Bedside clinic	Skill assessment/ Viva voce		General Medicine, Pediatrics, Biochemistry	
DR17.2	Enumerate and describe the various skin changes in Vitamin B complex deficiency	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics, Biochemistry	
DR17.3	Enumerate and describe the various changes in Vitamin C deficiency	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics, Biochemistry	
DR17.4	Enumerate and describe the various changes in Zinc deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics, Biochemistry	
Anesthesiology									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
AS2.1	Enumerate the indications, describe the steps and demonstrate in a simulated environment basic life support in adults children and neonates	S	SH	N	DOAP session	Skill assessment		General Medicine, Pediatrics	
Psychiatry									
PS14.1	Enumerate and describe the magnitude and etiology of psychiatric disorders occurring in childhood and adolescence	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PS14.2	Enumerate, elicit, describe and document clinical features in patients with psychiatric disorders occurring in childhood and adolescence	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Pediatrics	
PS14.3	Describe the treatment of stress related disorders including behavioural, psychosocial and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PS14.4	Demonstrate family education in a patient with psychiatric disorders occurring in childhood and adolescence in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Pediatrics	
PS14.5	Enumerate and describe the pharmacologic basis and side effects of drugs used in psychiatric disorders occurring in childhood and adolescence	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PS15.1	Describe the aetiology and magnitude of mental retardation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PS15.2	Describe and discuss intelligence quotient and its measurement	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PS15.3	Elicit and document a history and clinical examination and choose appropriate investigations in a patient with mental retardation	K/S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Pediatrics	
PS15.4	Describe the psychosocial interventions and treatment used in mental retardation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
General Medicine									
IM23.1	Discuss and describe the methods of nutritional assessment in an adult and calculation of caloric requirements during illnesses	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM23.2	Discuss and describe the causes and consequences of protein caloric malnutrition in the hospital	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM23.3	Discuss and describe the aetiology, causes, clinical manifestations, complications, diagnosis and management of common vitamin deficiencies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
IM23.4	Enumerate the indications for enteral and parenteral nutrition in critically ill patients	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	Pediatrics
Obstetrics & Gynecology									
OG1.2	Define and discuss perinatal mortality and morbidity including perinatal and neonatal mortality and morbidity audit	K	KH	Y	Lecture, Small group discussion	Short notes		Community Medicine	Pediatrics
OG18.1	Describe and discuss the assessment of maturity of the newborn, diagnosis of birth asphyxia, principles of resuscitation, common problems	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics
OG18.2	Demonstrate the steps of neonatal resuscitation in a simulated environment	S	SH	Y	DOAP session	Skill assessment			Pediatrics
OG18.3	Describe and discuss the diagnosis of birth asphyxia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics
OG18.4	Describe the principles of resuscitation of the newborn and enumerate the common problems encountered	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested Teaching Learning methods	Suggested Assessment methods	Number required to certify P	Vertical Integration	Horizontal Integration
Physical Medicine & Rehabilitation									
PM3.1	Describe and discuss the clinical features, types, evaluation, diagnosis and management of cerebral palsy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	Pediatrics
PM3.2	Recognize, describe and discuss the spectrum of multiple disability : cognitive, motor, visual and hearing in cerebral palsy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics
PM3.3	Recognize, describe and discuss the role of special education in children with learning disabilities	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics
PM3.4	Demonstrate spasticity, rigidity and dystonia in children with cerebral palsy	S	SH	Y	DOAP session, Small group discussion, Bedside clinic	Skill assessment			Pediatrics
PM3.5	Enumerate the indications and describe the therapies for spasticity including medications, serial casts, nerve blocks, botulinum toxin injections	K	KH	Y	Lecture, Small group discussion			Pharmacology	Pediatrics, Orthopedics
PM3.6	Enumerate the indications and describe prevention of joint subluxations and contractures by proper positioning, and use of special chairs, and appliances	K	KH	Y	DOAP session, Small group discussion, Bedside clinic				Pediatrics
PM3.7	Enumerate the first aid measures to be used in patients with seizures	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics
PM4.2	Describe and discuss the principles of management of chronic pain and role of common modalities (moist heat, ultrasound, Short wave diathermy)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics

PSYCHIATRY (CODE: PS)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PSYCHIATRY									
Topic: Doctor patient relationship		Number of competencies: (04)			Number of procedures that require certification: (NIL)				
PS1.1	Establish rapport and empathy with patients	A/C	SH	Y	DOAP session	Skill station			
PS1.2	Describe the components of communication	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS1.3	Demonstrate breaking of bad news in a simulated environment	A/C	SH	Y	DOAP session	Skill station			
PS1.4	Describe and demonstrate the importance of confidentiality in patient encounters	A/C	SH	Y	DOAP session	Faculty observation			
Topic: Mental health		Number of competencies: (05)			Number of procedures that require certification:(NIL)				
PS2.1	Define stress and describe its components and causes	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PS2.2	Describe the role of time management, study skills, balanced diet and sleep wake habits in stress avoidance	K	KH	Y	Lecture, Small group discussion	Viva voce			
PS2.3	Define and describe the principles and components of learning memory and emotions	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PS2.4	Describe the principles of personality development and motivation	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PS2.5	Define and distinguish normality and abnormality	K	K	Y	Lecture, Small group discussion	Viva voce			
Topic: Introduction to psychiatry		Number of competencies: (12)			Number of procedures that require certification: (NIL)				
PS3.1	Describe the growth of psychiatry as a medical specialty, its history and contribution to society	K	KH	Y	Lecture	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PS3.2	Enumerate, describe and discuss important signs & symptoms of common mental disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS3.3	Elicit, present and document a history in patients presenting with a mental disorder	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS3.4	Describe the importance of establishing rapport with patients	S/A	SH	Y	Bedside clinic, DOAP session	Skill assessment/ Faculty observation			
PS3.5	Perform, demonstrate and document a minimal examination	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS3.6	Describe and discuss biological, psychological & social factors & their interactions in the causation of mental disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS3.7	Enumerate and describe common organic psychiatric disorders, magnitude, etiology and clinical features	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PS3.8	Enumerate and describe the essential investigations in patients with organic psychiatric disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PS3.9	Describe the steps and demonstrate in a simulated environment family education in patients with organic psychiatric disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS3.10	Enumerate and describe the pharmacologic basis and side effects of drugs used in psychiatric disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS3.11	Enumerate the appropriate conditions for specialist referral in patients with psychiatric disorders	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PS3.12	Describe, discuss and distinguish psychotic & non-psychotic (Mood, Anxiety, Stress related) disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Psychotic disorders Number of competencies: (07) Number of procedures that require certification: (NIL)									
PS4.1	Describe the magnitude and etiology of alcohol and substance use disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PS4.2	Elicit, describe and document clinical features of alcohol and substance use disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PS4.3	Enumerate and describe the indications and interpret laboratory and other tests used in alcohol and substance abuse disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Medicine
PS4.4	Describe the treatment of alcohol and substance abuse disorders including behavioural and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PS4.5	Demonstrate family education in a patient with alcohol and substance abuse in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		AETCOM	
PS4.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in alcohol and substance abuse	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PS4.7	Enumerate the appropriate conditions for specialist referral in patients with alcohol and substance abuse disorders	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Psychotic disorders		Number of competencies: (06)			Number of procedures that require certification: (NIL)				
PS5.1	Classify and describe the magnitude and etiology of schizophrenia & other psychotic disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS5.2	Enumerate, elicit, describe and document clinical features, positive s	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS5.3	Describe the treatment of schizophrenia including behavioural and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS5.4	Demonstrate family education in a patient with schizophrenia in a simulated environment	K/S/A/C	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS5.5	Enumerate and describe the pharmacologic basis and side effects of drugs used in schizophrenia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS5.6	Enumerate the appropriate conditions for specialist referral in patients with psychotic disorders	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Depression		Number of competencies: (07)			Number of procedures that require certification: (NIL)				

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PS6.1	Classify and describe the magnitude and etiology of depression	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS6.2	Enumerate, elicit, describe and document clinical features in patients with depression	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS6.3	Enumerate and describe the indications and interpret laboratory and other tests used in depression	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS6.4	Describe the treatment of depression including behavioural and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS6.5	Demonstrate family education in a patient with depression in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS6.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in depression	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS6.7	Enumerate the appropriate conditions for specialist referral in patients with depression	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Bipolar disorders Number of competencies: (07) Number of procedures that require certification: (NIL)									
PS7.1	Classify and describe the magnitude and etiology of bipolar disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS7.2	Enumerate, elicit, describe and document clinical features in patients with bipolar disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS7.3	Enumerate and describe the indications and interpret laboratory and other tests used in bipolar disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS7.4	Describe the treatment of bipolar disorders including behavioural and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS7.5	Demonstrate family education in a patient with bipolar disorders in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS7.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in bipolar disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PS7.7	Enumerate the appropriate conditions for specialist referral in patients with bipolar disorders	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Anxiety disorders Number of competencies: (07) Number of procedures that require certification: (NIL)									
PS8.1	Enumerate and describe the magnitude and etiology of anxiety disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS8.2	Enumerate, elicit, describe and document clinical features in patients with anxiety disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS8.3	Enumerate and describe the indications and interpret laboratory and other tests used in anxiety disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS8.4	Describe the treatment of anxiety disorders including behavioural and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS8.5	Demonstrate family education in a patient with anxiety disorders in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS8.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in anxiety disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS8.7	Enumerate the appropriate conditions for specialist referral in anxiety disorders	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Stress related disorders Number of competencies: (07) Number of procedures that require certification: (NIL)									
PS9.1	Enumerate and describe the magnitude and etiology of stress related disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS9.2	Enumerate, elicit, describe and document clinical features in patients with stress related disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS9.3	Enumerate and describe the indications and interpret laboratory and other tests used in stress related disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS9.4	Describe the treatment of stress related disorders including behavioural and psychosocial therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS9.5	Demonstrate family education in a patient with stress related disorders in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PS9.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in stress related disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS9.7	Enumerate the appropriate conditions for specialist referral in stress disorders	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Somatoform disorders Number of competencies: (07) Number of procedures that require certification: (NIL)									
PS10.1	Enumerate and describe the magnitude and etiology of somatoform, dissociative and conversion disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PS10.2	Enumerate, elicit, describe and document clinical features in patients with somatoform, dissociative and conversion disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Medicine
PS10.3	Enumerate and describe the indications and interpret laboratory and other tests used in somatoform, dissociative and conversion disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Medicine
PS10.4	Describe the treatment of somatoform disorders including behavioural, psychosocial and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PS10.5	Demonstrate family education in a patient with somatoform, dissociative and conversion disorders in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS10.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in somatoform, dissociative and conversion disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PS10.7	Enumerate the appropriate conditions for specialist referral in patients with somato form dissociative and conversion disorders	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Personality disorders Number of competencies: (07) Number of procedures that require certification: (NIL)									
PS11.1	Enumerate and describe the magnitude and etiology of personality disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS11.2	Enumerate, elicit, describe and document clinical features in patients with personality disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PS11.3	Enumerate and describe the indications and interpret laboratory and other tests used in personality disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS11.4	Describe the treatment of personality disorders including behavioural, psychosocial and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS11.5	Demonstrate family education in a patient with personality disorders in a simulated environment	S/A/C	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS11.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in personality disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS11.7	Enumerate the appropriate conditions for specialist referral	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Psychosomatic disorders Number of competencies: (07) Number of procedures that require certification: (NIL)									
PS12.1	Enumerate and describe the magnitude and etiology of psychosomatic disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PS12.2	Enumerate, elicit, describe and document clinical features in patients with magnitude and etiology of psychosomatic disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Medicine
PS12.3	Enumerate and describe the indications and interpret laboratory and other tests of psychosomatic disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Medicine
PS12.4	Describe the treatment of psychosomatic disorders including behavioural, psychosocial and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PS12.5	Demonstrate family education in a patient with psychosomatic disorders in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS12.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in psychosomatic disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS12.7	Enumerate the appropriate conditions for specialist referral	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
Topic: Psychosexual and gender identity disorders		Number of competencies: (07)			Number of procedures that require certification: (NIL)				
PS13.1	Enumerate and describe the magnitude and etiology of psychosexual and gender identity disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS13.2	Enumerate, elicit, describe and document clinical features in patients with magnitude and etiology of psychosexual and gender identity disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS13.3	Enumerate and describe the indications and interpret laboratory and other tests used in psychosexual and gender identity disorders	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS13.4	Describe the treatment of psychosexual and gender identity disorders including behavioural, psychosocial and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
PS13.5	Demonstrate family education in a patient with psychosexual and gender identity disorders in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			
PS13.6	Enumerate and describe the pharmacologic basis and side effects of drugs used in psychosexual and gender identity disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS13.7	Enumerate the appropriate conditions for specialist referral	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Psychiatric disorders in childhood and adolescence		Number of competencies: (06)			Number of procedures that require certification: (NIL)				
PS14.1	Enumerate and describe the magnitude and etiology of psychiatric disorders occurring in childhood and adolescence	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PS14.2	Enumerate, elicit, describe and document clinical features in patients with psychiatric disorders occurring in childhood and adolescence	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PS14.3	Describe the treatment of stress related disorders including behavioural, psychosocial and pharmacologic therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PS14.4	Demonstrate family education in a patient with psychiatric disorders occurring in childhood and adolescence in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Pediatrics	
PS14.5	Enumerate and describe the pharmacologic basis and side effects of drugs used in psychiatric disorders occurring in childhood and adolescence	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PS14.6	Enumerate the appropriate conditions for specialist referral in children and adolescents with psychiatric disorders	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Mental retardation Number of competencies: (04) Number of procedures that require certification: (NIL)									
PS15.1	Describe the aetiology and magnitude of mental retardation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PS15.2	Describe and discuss intelligence quotient and its measurement	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
PS15.3	Elicit and document a history and clinical examination and choose appropriate investigations in a patient with mental retardation	K/S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Pediatrics	
PS15.4	Describe the psychosocial interventions and treatment used in mental retardation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
Topic: Psychiatric disorders in the elderly Number of competencies: (05) Number of procedures that require certification: (NIL)									
PS16.1	Enumerate and describe common psychiatric disorders in the elderly including dementia, depression and psychosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PS16.2	Describe the aetiology and magnitude of psychiatric illness in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
PS16.3	Describe the therapy of psychiatric illness in elderly including psychosocial and behavioural therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PS16.4	Demonstrate family education in a patient with psychiatric disorders occurring in the elderly in a simulated environment	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		General Medicine	
PS16.5	Enumerate the appropriate conditions for specialist referral in psychiatric disorders in the elderly	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Psychiatric emergencies Number of competencies: (03) Number of procedures that require certification: (NIL)									
PS17.1	Enumerate and describe the recognition and clinical presentation of psychiatric emergencies (Suicide, Deliberate Self Harm, Violent behaviour)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS17.2	Describe the initial stabilisation and management of psychiatric emergencies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PS17.3	Enumerate the appropriate conditions for specialist referral in patients with psychiatric emergencies	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Therapeutics Number of competencies: (03) Number of procedures that require certification: (NIL)									
PS18.1	Enumerate the indications and describe the pharmacology, dose and side effects of commonly use drugs in psychiatric disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharamcology	
PS18.2	Enumerate the indications for modified electroconvulsive therapy	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
PS18.3	Enumerate and describe the principles and role of psychosocial interventions in psychiatric illness including psychotherapy, behavioural therapy and rehabilitation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Miscellaneous Number of competencies: (06) Number of procedures that require certification: (NIL)									
PS19.1	Describe the relevance, role and status of community psychiatry	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PS19.2	Describe the objectives strategies and contents of the National Mental Health Act	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
PS19.3	Describe and discuss the basic legal and ethical issues in psychiatry	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine & Toxicology, AETCOM	
PS19.4	Enumerate and describe the salient features of the prevalent mental health laws in India	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
PS19.5	Describe the concept and principles of preventive psychiatry and mental health promotion (positive mental health); and community education	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
PS19.6	Enumerate and describe the identifying features and the principles of participatory management of mental illness occurring during and after disasters	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
	Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation								
Integration									
Physiology									
PY10.7	Describe and discuss functions of cerebral cortex, basal ganglia, thalamus, hypothalamus, cerebellum and limbic system and their abnormalities	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Psychiatry	Human Anatomy
PY10.8	Describe and discuss behavioural and EEG characteristics during sleep and mechanism responsible for its production	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Psychiatry	
PY10.9	Describe and discuss the physiological basis of memory, learning and speech	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Psychiatry	
PY10.12	Identify normal EEG forms	S	S	Y	Small group teaching	OSPE/Viva voce		Psychiatry	
Pharmacology									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PH1.19	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs which act on CNS, (including anxiolytics, sedatives & hypnotics, antipsychotic, antidepressant drugs, antimaniacs, opioid agonists and antagonists, drugs used for neurodegenerative disorders, antiepileptics drugs)	K	KH	Y	Lecture	Written/ Viva voce		Psychiatry, Physiology	
PH1.20	Describe the effects of acute and chronic ethanol intake. Describe the symptoms and management of methanol and ethanol poisonings	K	KH	Y	Lecture, Small group discussions	Written/ Viva voce		Psychiatry	
PH1.22	Describe drugs of abuse (dependence, addiction, stimulants, depressants, psychedelics, drugs used for criminal offences)	K	KH	Y	Lecture, Small group discussions	Written/Viva voce		Psychiatry	Forensic Medicine
PH1.23	Describe the process and mechanism of drug deaddiction	K/ S	KH	Y	Lecture, Small group discussions	Written/Viva voce		Psychiatry	
PH5.5	Demonstrate an understanding of the caution in prescribing drugs likely to produce dependence and recommend the line of management	K	KH	Y	Small group discussion	Short note/Viva voce		Psychiatry	
PH5.6	Demonstrate ability to educate public & patients about various aspects of drug use including drug dependence and OTC drugs.	A/C	SH	Y	Small group discussion	Skill station		Psychiatry	
Community Medicine									
CM15.1	Define and describe the concept of mental Health	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
CM15.2	Describe warning signals of mental health disorder	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
CM15.3	Describe National Mental Health program	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
Forensic Medicine & Toxicology									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
FM3.17	Describe and discuss the sexual perversions fetichism, transvestism, voyeurism, sadism, necrophagia, masochism, exhibitionism, frotteurism, Necrophilia	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, Psychiatry	
FM5.1	Classify common mental illnesses including post-traumatic stress disorder (PTSD)	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
FM5.2	Define, classify and describe delusions, hallucinations, illusion, lucid interval and obsessions with exemplification	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
FM5.3	Describe civil and criminal responsibilities of a mentally ill person	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
FM5.4	Differentiate between true insanity from feigned insanity	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
FM5.5	Describe & discuss Delirium tremens	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry, General Medicine	
FM5.6	Describe the Indian Mental Health Act, 1987 with special reference to admission, care and discharge of a mentally ill person	K	K/KH	N	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	
General Medicine									
IM17.14	Counsel patients with migraine and tension headache on lifestyle changes and need for prophylactic therapy	A/C	SH	N	DOAP session	Skill Assessment		Pharmacology	Psychiatry
IM21.8	Enumerate the indications for psychiatric consultation and describe the precautions to be taken in a patient with suspected suicidal ideation / gesture	K	KH	Y	DOAP session	Skill assessment		Forensic Medicine, Psychiatry	
IM24.2	Perform multidimensional geriatric assessment that includes medical, psycho-social and functional components	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Psychiatry	
IM24.5	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of depression in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
IM24.7	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of personality changes in the elderly	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
IM24.19	Enumerate and describe the social problems in the elderly including isolation, abuse, change in family structure and their impact on health	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
Pediatrics									
PE1.2	Discuss and describe the patterns of growth in infants, children and Adolescents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE1.3	Discuss and describe the methods of assessment of growth including use of WHO and Indian national standards. Enumerate the parameters used for assessment of physical growth in infants, children and adolescents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE1.5	Define development and discuss the normal developmental milestones with respect to motor, behaviour, social, adaptive and language	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE5.4	Describe the clinical features, diagnosis and management of Breath Holding spells	K	K	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE5.5	Describe the clinical features, diagnosis and management of Temper tantrums	K	K	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE5.7	Describe the clinical features, diagnosis and management of Fussy infant	K	K	N	Lecture, Small group discussion	Written			Psychiatry
PE5.10	Discuss the role of child guidance clinic in children with Behavioral problems and the referral criteria	K	K	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE6.2	Describe the physical , physiological and psychological changes during Adolescence (Puberty)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
PE6.4	Describe Adolescent sexuality and common problems related to it	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE6.5	Explain Adolescent Nutrition and common nutritional problems	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE6.6	Discuss the common Adolescent Eating disorders (Anorexia Nervosa, Bulimia)	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
PE6.7	Describe the common mental health problems during Adolescence	K	KH	Y	Lecture, Small Group discussion	Written/ Viva voce			Psychiatry
PE6.13	Enumerate the prevalence and the importance of recognition of sexual drug abuse in adolescents and children	K	K	N	Lecture, Small group discussion	Written/ Viva voce			Psychiatry
Physical Medicine & Rehabilitation									
PM 9.1	Describe rehabilitative aspects as they pertain to the elderly including patients with dementia, depression, incontinence immobility and nutritional needs	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Psychiatry
Dermatology, Venereology & Leprosy									
DR9.7	Enumerate and describe the complications of leprosy and its management, including understanding disability and stigma	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Medicine	Pharmacology, Psychiatry
Forensic Medicine & Toxicology									
FM2.5	Discuss moment of death, modes of death- coma, asphyxia and syncope	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Psychiatry	Pathology
FM3.14	SEXUAL OFFENCES Describe and discuss the examination of the victim of an alleged case of rape, and the preparation of report, framing the opinion and preservation and despatch of trace evidences in such cases	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic, DOAP session	Written/ Viva voce / OSCE		Obstetrics & Gynaecology, Psychiatry	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal Integration
FM3.15	SEXUAL OFFENCES Describe and discuss examination of accused and victim of sodomy, preparation of report, framing of opinion, preservation and despatch of trace evidences in such cases	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic, DOAP session	Written/ Viva voce / OSCE		Obstetrics & Gynaecology, Psychiatry	
FM3.16	SEXUAL OFFENCES Describe and discuss adultery and unnatural sexual offences- sodomy, incest, lesbianism, buccal coitus, bestiality, indecent assault and preparation of report, framing the opinion and preservation and despatch of trace evidences in such cases	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, Psychiatry	

DERMATOLOGY, VENEROLOGY AND LEPROSY (CODE: DR)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
DERMATOLOGY, VENEREOLOGY & LEPROSY									
Topic: Acne Number of competencies:(03) Number of procedures that require certificaion:(NIL)									
DR1.1	Enumerate the causative and risk factors of acne	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
DR1.2	Identify and grade the various common types of acne	S	SH	Y	Bedside clinic	Skill assessment			
DR1.3	Describe the treatment and preventive measures for various kinds of acne	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Vitiligo Number of competencies: (02) Number of procedures that require certificaion:(NIL)									
DR2.1	Identify and differentiate vitiligo from other causes of hypopigmented lesions	S	S	Y	Bedside clinic	Skill assessment			
DR2.2	Describe the treatment of vitiligo	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Papulosquamous disorders Number of competencies:(03) Number of procedures that require certificaion:(NIL)									
DR3.1	Identify and distinguish psoriatic lesions from other causes	K	SH	Y	Bedside clinic	Skill assessment/ Written/ Viva voce			
DR3.2	Demonstrate the grattage test	S	SH	Y	Bedside clinic	Skill assessment			
DR3.3	Enumerate the indications for and describe the various modalities of treatment of psoriasis including topical, systemic and phototherapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Lichen Planus Number of competencies:(02) Number of procedures that require certificaion:(NIL)									
DR4.1	Identify and distinguish lichen planus lesions from other causes	S	SH	Y	Bedside clinic	Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
DR4.2	Enumerate and describe the treatment modalities for lichen planus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Scabies Number of competencies:(03) Number of procedures that require certificaion:(NIL)									
DR5.1	Describe the etiology, microbiology, pathogenesis, natural history, clinical features, presentations and complications of scabies in adults and children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	
DR5.2	Identify and differentiate scabies from other lesions in adults and children	S	SH	Y	Bedside clinic	Skill assessment		Pediatrics	
DR5.3	Enumerate and describe the pharmacology, administration and adverse reaction of pharmacotherapies for scabies	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Pharmacology
Topic: Pediculosis Number of competencies : (02) Number of procedures that require certificaion:(NIL)									
DR6.1	Describe the etiology pathogenesis and diagnostic features of pediculosis in adults and children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Microbiology
DR6.2	Identify and differentiate pediculosis from other skin lesions in adults and children	S	SH	Y	Bedside clinic	Skill assessment		Pediatrics	
Topic: Fungal Infections Number of competencies: (03) Number of procedures that require certificaion:(NIL)									
DR7.1	Describe the etiology, microbiology, pathogenesis and clinical presentations and diagnostic features of dermatophytes in adults and children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Microbiology
DR7.2	Identify Candida species in fungal scrapings and KOH mount	S	SH	Y	DOAP session	Skill assessment			Microbiology
DR7.3	Describe the pharmacology and action of antifungal (systemic and topical) agents. Enumerate side effects of antifungal therapy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology, Pharmacology
Topic: Viral infections Number of competencies (07) Number of procedures that require certification: (NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
DR8.1	Describe the etiology, microbiology, pathogenesis and clinical presentations and diagnostic features of common viral infections of the skin in adults and children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pediatrics	Microbiology
DR8.2	Identify and distinguish herpes simplex and herpes labialis from other skin lesions	S	SH	Y	DOAP session	Skill assessment			
DR8.3	Identify and distinguish herpes zoster and varicella from other skin lesions	S	SH	Y	DOAP session	Skill assessment			
DR8.4	Identify and distinguish viral warts from other skin lesions	S	SH	Y	DOAP session	Skill assessment			
DR8.5	Identify and distinguish molluscum contagiosum from other skin lesions	S	SH	Y	DOAP session	Skill assessment			
DR8.6	Enumerate the indications, describe the procedure and perform a Tzanck smear	S	SH	Y	DOAP session	Skill assessment			
DR8.7	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for common viral illnesses of the skin	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pharmacology
Topic: Leprosy Number of competencies: (07) Number of procedures that require certification: (NIL)									
DR9.1	Classify, describe the epidemiology, etiology, microbiology, pathogenesis, clinical presentations and diagnostic features of Leprosy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology, Community Medicine
DR9.2	Demonstrate (and classify based on) the clinical features of leprosy including an appropriate neurologic examination	S	SH	Y	Bedside clinic	Bedside clinic/ Skill assessment		General Medicine	
DR9.3	Enumerate the indications and observe the performance of a slit skin smear in patients with leprosy	S	KH	Y	Bedside clinic, DOAP session	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
DR9.4	Enumerate, describe and identify lepra reactions and supportive measures and therapy of lepra reactions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology
DR9.5	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for various classes of leprosy based on national guidelines	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Community Medicine
DR9.6	Describe the treatment of Leprosy based on the WHO guidelines	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Community Medicine
DR9.7	Enumerate and describe the complications of leprosy and its management, including understanding disability and stigma.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Psychiatry
Topic: Sexually Transmitted Diseases Number of competencies: (11) Number of procedures that require certification:(NIL)									
DR10.1	Identify and classify syphilis based on the presentation and clinical manifestations	S	SH	Y	Bedside clinic	Skill assessment		General Medicine	Microbiology
DR10.2	Identify spirochete in a dark ground microscopy	S	SH	Y	DOAP session	Skill assessment			Microbiology
DR10.3	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for syphilis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Microbiology
DR10.4	Describe the prevention of congenital syphilis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
DR10.5	Counsel in a non-judgemental and empathetic manner patients on prevention of sexually transmitted disease	C	SH	Y	DOAP session	Skill assessment		General Medicine	
DR10.6	Describe the etiology, diagnostic and clinical features of non-syphilitic sexually transmitted diseases (chancroid, donovanosis and LGV)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
DR10.7	Identify and differentiate based on the clinical features non-syphilitic sexually transmitted diseases (chancroid, donovanosis and LGV)	S	SH	Y	Bedside clinic	Skill assessment		General Medicine	Microbiology
DR10.8	Enumerate the indications and describe the pharmacology, indications and adverse reactions of drugs used in the non-syphilitic sexually transmitted diseases (chancroid, donovanosis and LGV)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Microbiology
DR10.9	Describe the syndromic approach to ulcerative sexually transmitted disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
DR10.10	Describe the etiology, diagnostic and clinical features and management of gonococcal and non-gonococcal urethritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
DR10.11	Describe the etiology, diagnostic and clinical features and management of vaginal discharge	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
Topic: HIV Number of competencies: (03) Number of procedures that require certification: (NIL)									
DR11.1	Describe the etiology, pathogenesis and clinical features of the dermatologic manifestations of HIV and its complications including opportunistic infections	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Microbiology
DR11.2	Identify and distinguish the dermatologic manifestations of HIV, its complications, opportunistic infections and adverse reactions	S	SH	Y	Bedside clinic	Skill assessment		General Medicine	Microbiology
DR11.3	Enumerate the indications and describe the pharmacology, administration and adverse reaction of pharmacotherapies for dermatologic lesions in HIV	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	Pharmacology, Microbiology
Topic: Dermatitis and Eczema Number of competencies: (07) Number of procedures that require certification: (NIL)									
DR12.1	Describe the aetiopathogenesis of eczema	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
DR12.2	Identify eczema and differentiate it from lichenification and changes of aging	S	SH	Y	Bedside clinic	Skill assessment			
DR12.3	Classify and grade eczema	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
DR12.4	Enumerate the indications and describe the pharmacology, indications and adverse reactions of drugs used in the treatment of eczema	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
DR12.5	Define erythroderma. Enumerate and identify the causes of erythroderma. Discuss the treatment	S	KH	Y	Bedside clinic	Written/ Skill assessment			
DR12.6	Identify and distinguish exfoliative dermatitis from other skin lesions	S	SH	Y	Bedside clinic	Skill assessment			
DR12.7	Identify and distinguish fixed drug eruptions and Steven Johnson syndrome from other skin lesions	S	SH	Y	Bedside clinic	Skill assessment		General Medicine	Pathology, Microbiology
Topic: Vesicubullous Lesions Number of competencies:(03) Number of procedures that require certificaion:(NIL)									
DR13.1	Distinguish bulla from vesicles	S	SH	Y	Bedside clinic	Skill assessment			
DR13.2	Demonstrate the Tzanck test, nikolsky sign and bulla spread sign	S	SH	Y	Bedside clinic	Skill assessment			
DR13.3	Calculate the body surface area of involvement of vesiculobullous lesions	S	SH	Y	Bedside clinic	Skill assessment			
Topic: Urticaria Angioedema Number of competencies: (05) Number of procedures that require certificaion:(NIL)									
DR14.1	Describe the etiology, pathogenesis and clinical precipitating features and classification of Urticaria and angioedema	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Microbiology, Pathology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
DR14.2	Identify and distinguish urticarial from other skin lesions	S	SH	Y	Bedside clinic	Skill assessment			
DR14.3	Demonstrate dermographism	S	SH	Y	Bedside clinic	Skill assessment			
DR14.4	Identify and distinguish angioedema from other skin lesions	S	SH	Y	Bedside clinic	Skill assessment			
DR14.5	Enumerate the indications and describe the pharmacology indications and adverse reactions of drugs used in the urticaria and angioedema	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pharmacology
Topic: Pyoderma Number of competencies: (04) Number of procedures that require certification:(NIL)									
DR15.1	Identify and distinguish folliculitis impetigo and carbuncle from other skin lesions	S	SH	Y	Bedside clinic	Skill assessment			
DR15.2	Identify staphylococcus on a gram stain	S	SH	Y	Bedside clinic	Skill assessment			Microbiology
DR15.3	Enumerate the indications and describe the pharmacology, indications and adverse reactions of topical and systemic drugs used in treatment of pyoderma	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	Microbiology, Pharmacology
DR15.4	Enumerate the indications for surgical referral	S	KH	Y	DOAP session	Written/ Viva voce		General Surgery	
Topic: Collagen Vascular disease Number of competencies: (02) Number of procedures that require certification:(NIL)									
See also major competencies listed in General Medicine									
DR16.1	Identify and distinguish skin lesions of SLE	S	SH	Y	Bedside clinic	Skill assessment		General Medicine	Pathology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
DR16.2	Identify and distinguish Raynaud's phenomenon	S	SH	Y	Bedside clinic	Skill assessment		General Medicine	Pathology
Topic: Nutritional Deficiencies and Skin Number of competencies: (04) Number of procedures that require certification:(NIL)									
DR17.1	Enumerate and identify the cutaneous findings in vitamin A deficiency	K/S	SH	Y	Lecture, Small group discussion, Bedside clinic	Skill assessment/ Viva voce		General Medicine, Pediatrics, Biochemistry	
DR17.2	Enumerate and describe the various skin changes in Vitamin B complex deficiency	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics, Biochemistry	
DR17.3	Enumerate and describe the various changes in Vitamin C deficiency	K	KH	Y	Lecture	Written/ Viva voce		General Medicine, Pediatrics, Biochemistry	
DR17.4	Enumerate and describe the various changes in Zinc deficiency	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, Pediatrics, Biochemistry	
Topic: Systemic diseases and the skin Number of competencies:(02) Number of procedures that require certification:(NIL)									
DR18.1	Enumerate the cutaneous features of Type 2 diabetes	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
DR18.2	Enumerate the cutaneous features of hypo/hyper-thyroidism	K	K	Y	Lecture, Small group	Written/ Viva voce		General Medicine	

Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication.

Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently,

Column F: DOAP session – Demonstrate, Observe, Assess, Perform.

Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation

Integration

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Human Anatomy									
AN4.2	Describe structure & function of skin with its appendages	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		Dermatology, Venereology & Leprosy	
AN4.4	Describe modifications of deep fascia with its functions	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		Dermatology, Venereology & Leprosy	
AN4.5	Explain principles of skin incisions	K	KH	N	Lecture	Written		Dermatology, Venereology & Leprosy	
Pathology									
PA34.1	Describe the risk factors, pathogenesis, pathology and natural history of squamous cell carcinoma of the skin	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy	
PA34.2	Describe the risk factors, pathogenesis, pathology and natural history of basal cell carcinoma of the skin	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy	
PA34.3	Describe the distinguishing features between a nevus and melanoma. Describe the etiology, pathogenesis, risk factors, morphology, clinical features and metastases of melanoma	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy	
PA34.4	Identify, distinguish and describe common tumors of the skin	S	SH	N	DOAP session	Skill Assessment		Dermatology, Venereology & Leprosy	

Microbiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
MI4.3	Describe the etio-pathogenesis of Skin and soft tissue infections and discuss the clinical course, and the laboratory diagnosis.	K	KH	Y	Lecture	Written/ Viva voce		Dermatology, Venereology & Leprosy, General Surgery	
MI7.2	Describe the etio-pathogenesis and discuss the laboratory diagnosis of sexually transmitted infections. Recommend preventive measures, wherever relevant.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Dermatology, Venereology & Leprosy, Obstetrics & Gynaecology	

Pharmacology

PH1.46	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of antileprotic drugs	K	KH	Y	Lecture	Written/ Viva voce		Dermatology, Venereology & Leprosy	Microbiology
PH1.57	Describe drugs used in skin disorders	K	KH	Y	Lecture	Written/ Viva voce		Dermatology, Venereology & Leprosy	

Pediatrics

PE31.4	Identify Atopic dermatitis and manage	S	SH		Bedside clinics, Skill Lab	Skill Assessment		Dermatology, Venereology & Leprosy	
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PHYSICAL MEDICINE & REHABILITATION (CODE: PM)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PHYSICAL MEDICINE & REHABILITATION									
Topic: Introduction to Physical Medicine Number of competencies: (04) Number of procedures that require certification:(NIL)									
PM1.1	Define and describe the scope of physical Medicine and Rehabilitation and functional restoration	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
PM1.2	Define and describe disability, its cause, and magnitude, identification and prevention of disability	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Orthopedics
PM1.3	Define and describe the methods to identify and prevent disability	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Orthopedics
PM1.4	Enumerate the rights and entitlements of differently abled persons	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Orthopedics
Topic: Cerebrovascular accident Number of competencies: (04) Number of procedures that require certification:(NIL)									
PM2.1	Describe the causes of disability in the patient with a cerebrovascular accident	K	KH	Y	Lecture, small group discussion	Written/ Viva voce		Human Anatomy	General Medicine
PM2.2	Describe and discuss the treatment of rigidity and spasticity	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM2.3	Describe and discuss the principles of early mobilizations, mobility aids and splints	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM2.4	Describe and discuss the impact of co-morbidities on the rehabilitation of the patient with cerebrovascular accident	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
Topic: Cerebral Palsy Number ocompetencies: (07) Number of procedures that require certification: (NIL)									
PM3.1	Describe and discuss the clinical features, types, evaluation, diagnosis and management of cerebral palsy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	Pediatrics

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PM3.2	Recognize, Describe and discuss the spectrum of multiple disability: cognitive, motor, visual and hearing in cerebral palsy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics
PM3.3	Recognize describe and discuss the role of special education in children with learning disabilities	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics
PM3.4	Demonstrate spasticity rigidity and dystonia in children with cerebral palsy	S	SH	Y	DOAP session, Small group discussion, Bedside clinic	Skill assessment			Pediatrics
PM3.5	Enumerate the indications and describe the therapies for spasticity including medications, serial casts, nerve blocks, botulinum toxin injections	K	KH	Y	Lecture, Small group discussion			Pharmacology	Pediatrics, Orthopedics
PM3.6	Enumerate the indications and describe prevention of joint subluxations and contractures by proper positioning, and use of special chairs, and appliances	K	KH	Y	DOAP session, Small group discussion, Bedside clinic				Pediatrics
PM3.7	Enumerate the first aid measures to be used in patients with seizures	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics
Topic: Musculoskeletal system Number of competencies : (05) Number of procedures that require certification: (NIL)									
PM4.1	Describe the common patterns, clinical features, investigations, diagnosis and treatment of common causes of arthritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Orthopedics
PM4.2	Describe and discuss the principles of management of chronic pain and role of common modalities (moist heat, ultrasound, Short wave diathermy)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics
PM4.3	Observe in a mannequin or equivalent the administration of an intra-articular injection	S	KH	N	DOAP session	Skill assessment			Orthopedics
PM4.4	Describe the role of exercise as a therapeutic modality	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PM4.5	Demonstrate correct assessment of muscle strength and range of movements	S	SH	Y	DOAP session, Bedside clinic	Skill assessment			General Medicine, Orthopedics
Topic: Amputation Number of competencies : (04) Number of procedures that require certification: (NIL)									
PM5.1	Enumerate the indications and describe the principles of amputation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics, General Surgery
PM5.2	Describe the principles of early mobilization, evaluation of the residual limb, contralateral limb and the influence of co-morbidities	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
PM5.3	Demonstrate the correct use of crutches in ambulation and postures to correct contractures and deformities	S	SH	Y	DOAP session, Bedside clinic	Skill assessment			Orthopedics
PM5.4	Identify the correct prosthesis for common amputations	S	SH	Y	DOAP session	Skill assessment written			Orthopedics
Topic: Lower motor neruon lesion Number of competencies :(04) Number of procedures that require certification: (NIL)									
PM6.1	Perform and demonstrate a clinical examination of sensory and motor deficits of peripheral nerve	S	SH	Y	Bedside clinic	Skill assessment			General Medicine
PM6.2	Enumerate the indications and describe the principles of nerve conduction velocity and EMG	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM6.3	Describe the principles principles of skin traction, serial casts and surgical treatment including contracture release, tendon transfer, osteotomies and arthrodesis.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
PM6.4	Describe the principles of orthosis for ambulation in PPRP	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
Topic: Spinal injury Number of competencies:(09) Number of procedures that require certification: (NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PM7.1	Describe and discuss the clinical features, diagnostic work up and management of spinal cord injury	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
PM7.2	Describe and demonstrate process of transfer, application of collar restraints while maintaining airway and prevention of secondary injury in a mannequin/model	S	SH	Y	DOAP session, Small group discussion, Bedside clinic	Skill assessment			Orthopedics
PM7.3	Perform and demonstrate a correct neurological examination in a patient with spinal injury and determine the neurologic level of injury	S	SH	Y	Bed side clinic	Skill assessment			Orthopedics
PM7.4	Assess bowel and bladder function and identify common patterns of bladder dysfunction	S	KH	Y	Small group discussion	Written/ Viva voce			General Medicine, Orthopedics
PM7.5	Enumerate the indications and identify the common mobility aids and appliances, wheel chairs	S	S	Y	DOAP session	Skill assessment /Viva voce			Orthopedics
PM7.6	Enumerate the indications and describe the pharmacology and side effects of commonly used drugs in neuropathic bladder	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Medicine
PM7.7	Enumerate and describe common life threatening complications following SCI like Deep vein Thrombosis, Aspiration Pneumonia, Autonomic dysreflexia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Orthopedics
PM7.8	Enumerate the causes of, describe and classify Pressure Sores,their prevention, and treatment.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Surgery
PM7.9	Enumerate the indications of debridement, and Split thickness skin grafting.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Surgery
Topic: Traumatic brain injury (TBI) Number of competencies:(05) Number of procedures that require certification: (NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PM8.1	Describe the clinical features, evaluation, diagnosis and management of disability following traumatic brain injury	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Orthopedics, General Surgery
PM8.2	Describe and discuss cognitive dysfunction like deficits in attention, memory and communication.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM8.3	Describe and discuss common behavior and mood changes following TBI.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM8.4	Describe metabolic co-morbidities like SIADH, diabetes mellitus, insipidus and endocrine dysfunction following TBI	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
PM8.5	Describe the vocational opportunities and community based rehabilitation following TBI	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
Topic: Geriatrics Number of competencies:(01) Number of procedures that require certification: (NIL)									
PM 9.1	Describe rehabilitative aspects as they pertain to the elderly including patients with dementia, depression, incontinence immobility and nutritional needs	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Psychiatry
	Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation								

Integration

General Medicine									
IM18.16	Enumerate the indications, describe and observe the multidisciplinary rehabilitation of patients with a CVA	S	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Physical Medicine & Rehabilitation
IM24.13	Describe and discuss the aetiopathogenesis,clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of falls in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics, Physical Medicine & Rehabilitation

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM24.16	Describe and discuss the principles of physical and social rehabilitation, functional assessment, role of physiotherapy and occupational therapy in the management of disability in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics, Physical Medicine & Rehabilitation

Pediatrics

PE3.8	Discuss the etio-pathogenesis, clinical presentation and multi-disciplinary approach in the management of Cerebral palsy	K	KH	Y	Lecture, Small group discussion, Bed side clinics	Written/ Viva voce			Physical Medicine & Rehabilitation

List of contributing subject Experts

1. Human Anatomy

- Dr. Praveen R Singh, Professor & Head, Department of Anatomy, Pramukhswami Medical College, Karamsad, Gujarat
- Dr. Nachiket Shankar, Associate Professor, Department of Anatomy, St. John's Medical College & Hospital, Bangalore

2. Physiology

- Dr. Mario Vaz, Professor, Department of Physiology, St. John's Medical College & Hospital, Bangalore
- Dr. Jayashree Sengupta, Former Professor & Head, Department of Physiology, All India Institute of Medical Sciences, New Delhi.
- Dr Hasmukh D Shah, Professor & Head, Department of Physiology, Pramukhswami Medical College, Karamsad, Gujarat

3. Biochemistry

- Dr. Nibhriti Das, Professor, Department of Biochemistry, All India Institute of Medical Sciences, New Delhi
- Dr. S. P. Singh, Professor, Department of Biochemistry, Maharani Laxmi Bai Medical College, Jhansi, Uttar Pradesh
- Dr. Hitesh N Shah, Professor & Head, Department of Biochemistry, Pramukhswami Medical College, Karamsad, Gujarat

4. Pharmacology

- Dr. S. K. Maulik, Professor, Department of Pharmacology, All India Institute of Medical Sciences, New Delhi
- Dr. Vandana Roy, Professor, Department of Pharmacology, Maulana Azad Medical College, New Delhi

5. Pathology

- Dr. S. Datta Gupta, Professor, Department of Pathology, All India Institute of Medical Sciences, New Delhi
- Dr. Uma Chaturvedi, Professor, C-1303, Freedom Park Life, Sector- 57, Gurugram

6. Microbiology

- Dr. S. Geetalakshmi, Dean, Professor, Department of Microbiology, Stanley Medical College, Chennai, Tamil Nadu.
- Dr. Padma Srikanth, Professor, Department of Microbiology, Sri Ramachandra Medical College & Research Institute, Chennai
- Dr. Suman Singh, Professor, Department of Microbiology, Pramukhswami Medical College, Karamsad, Gujarat

7. Forensic Medicine & Toxicology

- Dr. Sanjeev Lalwani, Professor & Registrar (Academics), Department of Forensic Medicine, All India Institute of Medical Sciences, New Delhi
- Dr. T. D. Dogra, Former Director & Former Head, Department of Forensic Medicine, All India Institute of Medical Sciences, New Delhi; currently, Vice Chancellor, SGT University, Gurugram
- Col. Ravi Rautji, Professor & Head, Department of Forensic Medicine, Commanding Officer, Directorate General of Medical Services (Army), New Delhi
- Dr. S.D. Nanandkar, Professor & Head, Department of Forensic Medicine, Grant Government Medical College & Sir J.J. Group of Hospitals, Mumbai
- Dr. Indrajit L. Khandekar, In-charge CFMU and Associate Professor, Department of Forensic Medicine & Toxicology, MGIMS and Kasturba Hospital, Sewagram, Wardha.
- Dr. S. B. Punpale, Professor & Head, Department of Forensic Medicine, B. J. Medical College, Pune, Maharashtra

8. Community Medicine

- Dr. B. S. Garg, Professor & Head, Department of Community Medicine, Mahatama Gandhi Institute of Medical Sciences, Wardha, Sewagram, Maharashtra
- Dr. Umesh Kapil, Professor, Department of Community Medicine, All India Institute of Medical Sciences, New Delhi
- Dr. Sanjay Zodpey, Director, Public Health Foundation of India, Isid Campus, 4 Institutional Area, Vasant Kunj, New Delhi
- Dr. Saudan Singh, Professor, Department of Community Medicine, Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi
- Dr. Dinesh Kumar, Professor, Department of Community Medicine, Pramukhswami Medical College, Karamsad, Gujarat
- Dr. Pankaj B. Shah, Professor, Department of Community Medicine, Sri Ramachandra Medical College & Research Institute, Chennai.

9. General Medicine & Respiratory Medicine

- Dr. Krishna G. Seshadri, Visiting Professor, Endocrinology & Metabolism, Balaji Vidyapeeth, Puducherry
- Dr. M. K. Bhatnagar, Director Professor, Department of General Medicine, Lady Hardinge Medical College, New Delhi
- Dr. Aparna Agarwal, Director Professor of Medicine, Lady Hardinge Medical College, New Delhi
- Dr. Anil Gurtoo, Director Professor of Medicine, Lady Hardinge Medical College, New Delhi

10. Pediatrics

- Dr. Harish Chellani, Professor of Pediatrics, Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi
- Dr. A. K. Dutta, Former Head, Kalawati Saran Children's Hospital, New Delhi

- Dr. S. Aneja, Director Professor & Head, Department of Pediatrics, Kalawati Saran Children's Hospital, New Delhi
- Dr. Latha Ravichandran, Professor, Deartment of Paediatrics, Sri Ramachandra Medical College & Research Institute, Chennai.

11. Psychiatry

- Dr. Rakesh Kumar Chadda, Department of Psychiatry, All India Institute of Medical Sciences, New Delhi
- Dr. N. M. Patil, Professor, Department of Psychiatry, Jawaharlal Nehru Medical College, Belagavi
- Dr. Rajesh Rastogi, Consultant & Head Department of Psychiatry, Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi.
- Dr. Jagdish R Varma, Associate Professor, Department of Psychiatry, Pramukhswami Medical College, Karamsad, Gujarat

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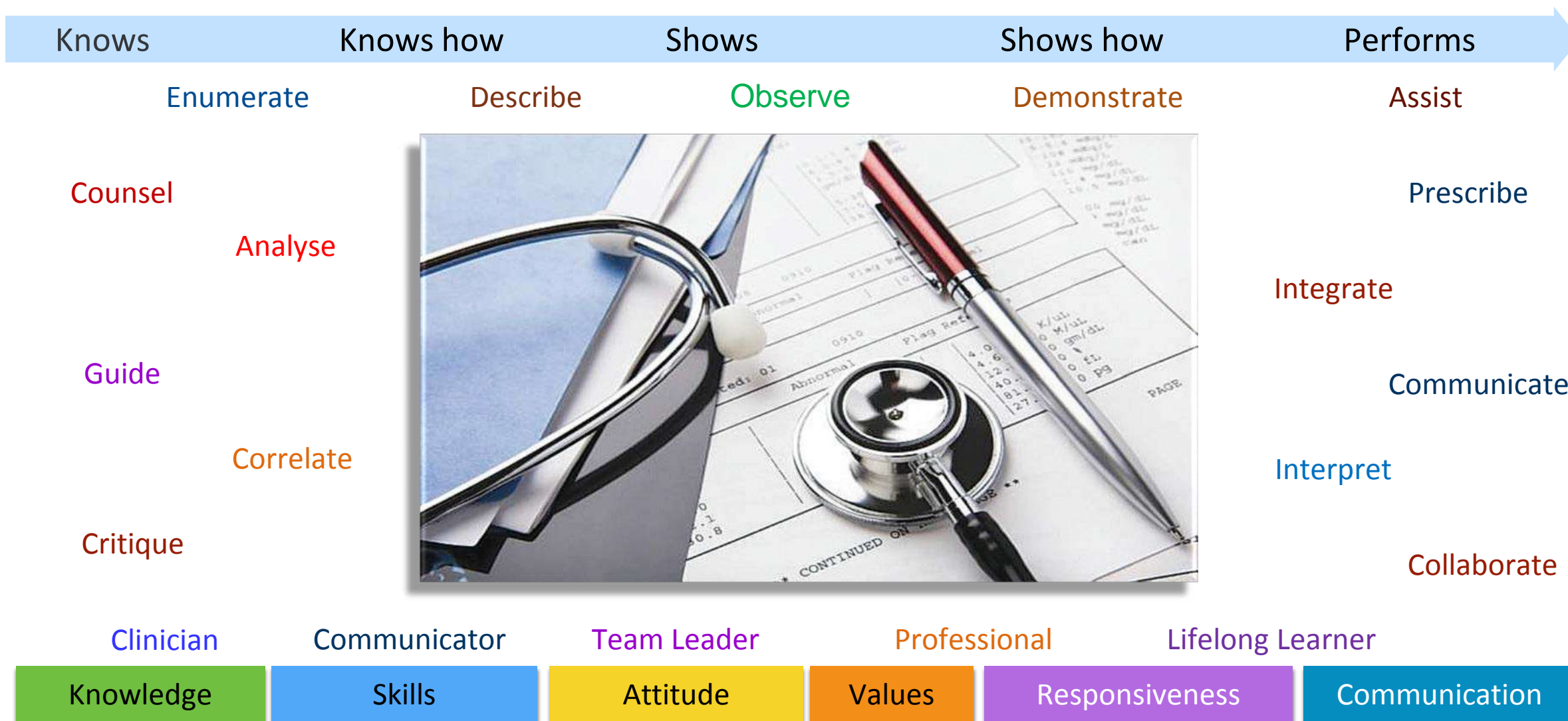
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MEDICAL COUNCIL OF INDIA

COMPETENCY BASED UNDERGRADUATE CURRICULUM FOR THE INDIAN MEDICAL GRADUATE



VOLUME-III (2018)

**COMPETENCY BASED UNDERGRADUATE CURRICULUM
FOR THE
INDIAN MEDICAL GRADUATE
2018**



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भारतीय आयुर्विज्ञान परिषद के अधिक्रमण में शासी बोर्ड

BOARD OF GOVERNORS IN SUPERSESSION OF MEDICAL COUNCIL OF INDIA

FOREWORD

The Medical Council of India, aware of its responsibilities in creation of trained health manpower, has been engaged for the past few years in updating the medical curriculum for undergraduates and postgraduates to be in consonance with the changing health needs of the country. The task of updating and reorganization of the postgraduate curriculum in nearly 50 broad specialty disciplines to the competency pattern was accomplished by the Academic Cell of the Council with the help of subject experts and members of its Reconciliation Board and have been uploaded on the Council Website for use of the medical fraternity.

The Council visualized that the Indian Medical Graduate, at the end of the undergraduate training program, should be able to recognize "health for all" as a national goal and should be able to fulfill his/her societal obligations towards the realization of this goal. To fulfill the mandate of the undergraduate medical curriculum which is to produce a clinician, who understands and is able to provide preventive, promotive, curative, palliative and holistic care to his patients, the curriculum must enunciate clearly the competencies the student must be imparted and must have learnt, with clearly defined teaching-learning strategies and effective methods of assessment. The student should be trained to effectively communicate with patients and their relatives in a manner respectful of the patient's preferences, values, beliefs, confidentiality and privacy and to this purpose, a book on Attitude, Ethics & Communication was prepared by the Medical Council of India; the teaching faculty of medical colleges have been receiving training on this module since 2015.

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-2-

Competency based Medical Education provides an effective outcome-based strategy where various domains of teaching including teaching learning methods and assessment form the framework of competencies. Keeping this objective as the core ingredient, the Medical Council of India with the help of panel of experts drawn from across the country, laid the basic framework for the revised undergraduate medical curriculum. Over the past four years, a group of highly committed medical professionals working as Members of the MCI Reconciliation Board developed this information into a document incorporating appropriate teaching-learning strategies, tools and techniques of teaching, and modes of assessment which have culminated in the current competency based undergraduate curriculum. We understand that maximum efforts were made to encourage integrated teaching between traditional subject areas using a problem-based learning approach starting with clinical or community cases and exploring the relevance of various preclinical disciplines in both the understanding and resolution of the problem. All efforts have been made to de-emphasize compartmentalisation of disciplines so as to achieve both horizontal and vertical integration in different phases. We are proud of their work accomplishment and congratulate them in the onerous task accomplished.

It gives us great satisfaction to state that the '**competency based undergraduate curriculum**' that has been prepared by the Medical Council of India would definitely serve the cause of medical education and in creating a competent Indian Medical Graduate to serve the community.

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Contents Vol. I

Sl. No.	Subject	Legend	Page No.
(i)	Preamble		11
(ii)	How to use the Manual		14
(iii)	Definitions used in the Manual		37
	Competency based Undergraduate Curriculum in Pre-clinical and Para-clinical subjects		
1.	Human Anatomy	AN	41
2.	Physiology	PY	92
3.	Biochemistry	BI	119
4.	Pharmacology	PH	136
5.	Pathology	PA	160
6.	Microbiology	MI	205
7.	Forensic Medicine & Toxicology	FM	228
(iv)	List of contributing subject experts		252

Contents Vol. II

Sl. No.	Subject	Legend	Page No.
(i)	Preamble		11
(ii)	How to use the Manual		14
(iii)	Definitions used in the Manual		37
	Competency based Undergraduate Curriculum in Medicine and Allied subjects		
1.	Community Medicine	CM	41
2.	General Medicine	IM	60
3.	Respiratory Medicine	CT	143
4.	Pediatrics	PE	150
5.	Psychiatry	PS	203
6.	Dermatology, Venereology & Leprosy	DR	219
7.	Physical Medicine & Rehabilitation	PM	229
(iv)	List of contributing subject experts		235

Contents Vol. III

Sl. No.	Subject	Legend	Page No.
(i)	Preamble		11
(ii)	How to use the Manual		14
(iii)	Definitions used in the Manual		37
	Competency based Undergraduate Curriculum in Surgery and Allied subjects		
1.	General Surgery	SU	41
2.	Ophthalmology	OP	79
3.	Otorhinolaryngology	EN	89
4.	Obstetrics & Gynaecology	OG	102
5.	Orthopedics	OR	130
6.	Anesthesiology	AS	145
7.	Radiodiagnosis	RD	154
8.	Radiotherapy	RT	160
9.	Dentistry	DE	163
(iv)	List of contributing subject experts		166

COMPETENCY BASED UNDERGRADUATE CURRICULUM FOR THE INDIAN MEDICAL GRADUATE

Preamble

The new Graduate Medical Education Regulations attempts to stand on the shoulder of the contributions and the efforts of resource persons, teachers and students (past and present). It intends to take the learner to provide health care to the evolving needs of the nation and the world.

More than twenty years have passed since the existing Regulations on Graduate Medical Education, 1997 was notified, necessitating a relook at all aspects of the various components in the existing regulations and adapt them to the changing demography, socio-economic context, perceptions, values and expectations of stakeholders. Emerging health care issues particularly in the context of emerging diseases, impact of advances in science and technology and shorter distances on diseases and their management also need consideration. The strong and forward looking fundamentals enshrined in the Regulations on Graduate Medical Education, 1997 has made this job easier. A comparison between the 1997 Regulations and proposed Graduate Medical Education Regulations, 2018 will reveal that the 2018 Regulations have evolved from several key principles enshrined in the 1997 Regulations.

The thrust in the new regulations is continuation and evolution of thought in medical education making it more learner-centric, patient-centric, gender-sensitive, outcome -oriented and environment appropriate. The result is an outcome driven curriculum which conforms to global trends. Emphasis is made on alignment and integration of subjects both horizontally and vertically while respecting the strengths and necessity of subject-based instruction and assessment. This has necessitated a deviation from using “broad competencies”; instead, the reports have written end of phase subject (sub) competencies. These “sub-competencies” can be mapped to the global competencies in the Graduate Medical Education Regulations.

A significant attempt has been made in the outcome driven undergraduate curriculum to provide the orientation and the skills necessary for life-long learning to enable proper care of the patient. In particular, the curriculum provides for early clinical exposure, electives and longitudinal care. Skill acquisition is an indispensable component of the learning process in medicine. The curriculum reinforces this aspect by necessitating certification of certain essential skills. The experts and the writing group have factored in patient availability, access, consent, number of students in a class etc. in suggesting skill acquisition and assessment methods; use of skills labs, simulated and guided environments are encouraged. In the pre-internship years,- the highest level of skill acquisition is a show how (SH) in a simulated or guided environment; few skills require independent performance and certification - these are marked with P (for performance). Opportunity to ‘perform’ these skills will be available during internship.

The importance of ethical values, responsiveness to the needs of the patient and acquisition of communication skills is underscored by providing dedicated curriculum time in the form of a longitudinal program based on Attitude, Ethics and Communication (AETCOM) competencies. Great emphasis has been placed on collaborative and inter-disciplinary teamwork, professionalism, altruism and respect in professional relationships with due sensitivity to differences in thought, social and economic position and gender.

In addition to the above, an attempt has been made to allow students from diverse educational streams and backgrounds to transition appropriately through a Foundation Course. Dedicated time has been allotted for self directed learning and co-curricular activities.

Formative and internal assessments have been streamlined to achieve the objectives of the curriculum. Minor tweaks to the summative assessment have been made to reflect evolving thought and regulatory requirements. Curricular governance and support have been strengthened, increasing the involvement of Curriculum Committee and Medical Education Departments/Units.

The curriculum document in conjunction with the new Graduate Medical Education Regulations (GMR), when notified, must be seen as a “living document” that should evolve as stakeholder requirements and aspirations change. We hope that the current GMR does just that. The Medical Council of India is

grateful to all the teachers, subject experts, process experts, patients, students and trainees who have contributed through invaluable inputs, intellectual feedbacks and valuable time spent to make this possible. This document would not have been possible without the dedicated and unstinting intellectual, mental and time-consuming efforts of the members of the Reconciliation Board of the Council and the Academic Cell of MCI.

How to use the Manual

This Manual is intended for curriculum planners in an institution to design learning and assessment experiences for the MBBS student. Contents created by subject experts have been curated to provide guidance for the curriculum planners, leaders and teachers in medical schools. They must be used with reference to and in the context of the Regulations.

Section 1

Competencies for the Indian Medical Graduate

Section 1 - provides the global competencies extracted from the Graduate Medical Education Regulations, 2018. The global competencies identified as defining the roles of the **Indian Medical Graduate** are the broad competencies that the learner has to aspire to achieve; teachers and curriculum planners must ensure that the learning experiences are aligned to this Manual.

Extract from the Graduate Medical Education Regulations, 2018

2. Objectives of the Indian Graduate Medical Training Programme

The undergraduate medical education program is designed with a goal to create an “Indian Medical Graduate” (IMG) possessing requisite knowledge, skills, attitudes, values and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being globally relevant. To achieve this, the following national and institutional goals for the learner of the Indian Medical Graduate training program are hereby prescribed:-

2.1. National Goals

At the end of undergraduate program, the Indian Medical Graduate should be able to:

- (a) recognize “health for all” as a national goal and health right of all citizens and by undergoing training for medical profession fulfill his/her social obligations towards realization of this goal.
- (b) learn every aspect of National policies on health and devote herself/himself to its practical implementation.
- (c) achieve competence in practice of holistic medicine, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases.
- (d) develop scientific temper, acquire educational experience for proficiency in profession and promote healthy living.
- (e) become exemplary citizen by observance of medical ethics and fulfilling social and professional obligations, so as to respond to national aspirations.

2.2. Institutional Goals

In consonance with the national goals, each medical institution should evolve institutional goals to define the kind of trained manpower (or professionals) they intend to produce. The Indian Medical Graduates coming out of a medical institute should:

- (a) be competent in diagnosis and management of common health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.
- (b) be competent to practice preventive, promotive, curative and rehabilitative medicine in respect to the commonly encountered health problems.
- (c) appreciate rationale for different therapeutic modalities, be familiar with the administration of the "essential drugs" and their common side effects.
- (d) be able to appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.

- (e) possess the attitude for continued self learning and to seek further expertise or to pursue research in any chosen area of medicine, action research and documentation skills.
- (f) be familiar with the basic factors which are essential for the implementation of the National Health Programs including practical aspects of the following:
 - (i) Family Welfare and Maternal and Child Health (MCH);
 - (ii) Sanitation and water supply;
 - (iii) Prevention and control of communicable and non-communicable diseases;
 - (iv) Immunization;
 - (v) Health Education;
 - (vi) Indian Public Health Standards (IPHS) at various level of service delivery;
 - (vii) Bio-medical waste disposal; and
 - (viii) Organizational and or institutional arrangements.
- (g) acquire basic management skills in the area of human resources, materials and resource management related to health care delivery, General and hospital management, principal inventory skills and counseling.
- (h) be able to identify community health problems and learn to work to resolve these by designing, instituting corrective steps and evaluating outcome of such measures.
- (i) be able to work as a leading partner in health care teams and acquire proficiency in communication skills.
- (j) be competent to work in a variety of health care settings.
- (k) have personal characteristics and attitudes required for professional life including personal integrity, sense of responsibility and dependability and ability to relate to or show concern for other individuals.

All efforts must be made to equip the medical graduate to acquire the skills as detailed in Table 11 Certifiable procedural skills – A Comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) – Indian Medical Graduate, as given in the Graduate Medical Education Regulations, 2018

2.3. Goals for the Learner

In order to fulfil this goal, the Indian Medical Graduate must be able to function in the following roles appropriately and effectively:-

- 2.3.1. Clinician who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.
- 2.3.2. Leader and member of the health care team and system with capabilities to collect, analyze, synthesize and communicate health data appropriately.
- 2.3.3. Communicator with patients, families, colleagues and community.
- 2.3.4. Lifelong learner committed to continuous improvement of skills and knowledge.
- 2.3.5. Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community and profession.

3. Competency Based Training Programme of the Indian Medical Graduate

Competency based learning would include designing and implementing medical education curriculum that focuses on the desired and observable ability in real life situations. In order to effectively fulfil the roles as listed in clause 2, the Indian Medical Graduate would have obtained the following set of competencies at the time of graduation:

3.1. *Clinician, who understands and provides preventive, promotive, curative, palliative and holistic care with compassion*

- 3.1.1 Demonstrate knowledge of normal human structure, function and development from a molecular, cellular, biologic, clinical, behavioral and social perspective.
- 3.1.2. Demonstrate knowledge of abnormal human structure, function and development from a molecular, cellular, biological, clinical, behavioural and social perspective.
- 3.1.3 Demonstrate knowledge of medico-legal, societal, ethical and humanitarian principles that influence health care.

- 3.1.4 Demonstrate knowledge of national and regional health care policies including the National Health Mission that incorporates National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), frameworks, economics and systems that influence health promotion, health care delivery, disease prevention, effectiveness, responsiveness, quality and patient safety.
- 3.1.5. Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is complete and relevant to disease identification, disease prevention and health promotion.
- 3.1.6. Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is contextual to gender, age, vulnerability, social and economic status, patient preferences, beliefs and values.
- 3.1.7 Demonstrate ability to perform a physical examination that is complete and relevant to disease identification, disease prevention and health promotion.
- 3.1.8 Demonstrate ability to perform a physical examination that is contextual to gender, social and economic status, patient preferences and values.
- 3.1.9 Demonstrate effective clinical problem solving, judgment and ability to interpret and integrate available data in order to address patient problems, generate differential diagnoses and develop individualized management plans that include preventive, promotive and therapeutic goals.
- 3.1.10 Maintain accurate, clear and appropriate record of the patient in conformation with legal and administrative frameworks.
- 3.1.11 Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context.
- 3.1.12 Demonstrate ability to prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy and interventions based on the principles of rational drug therapy, scientific validity, evidence and cost that conform to established national and regional health programmes and policies for the following:
 - i) Disease prevention,
 - ii) Health promotion and cure,
 - iii) Pain and distress alleviation, and
 - iv) Rehabilitation and palliation.

- 3.1.13 Demonstrate ability to provide a continuum of care at the primary and/or secondary level that addresses chronicity, mental and physical disability.
- 3.1.14 Demonstrate ability to appropriately identify and refer patients who may require specialized or advanced tertiary care.
- 3.1.15 Demonstrate familiarity with basic, clinical and translational research as it applies to the care of the patient.

3.2. *Leader and member of the health care team and system*

- 3.2.1 Work effectively and appropriately with colleagues in an inter-professional health care team respecting diversity of roles, responsibilities and competencies of other professionals.
- 3.2.2 Recognize and function effectively, responsibly and appropriately as a health care team leader in primary and secondary health care settings.
- 3.2.3 Educate and motivate other members of the team and work in a collaborative and collegial fashion that will help maximize the health care delivery potential of the team.
- 3.2.4 Access and utilize components of the health care system and health delivery in a manner that is appropriate, cost effective, fair and in compliance with the national health care priorities and policies, as well as be able to collect, analyze and utilize health data.
- 3.2.5 Participate appropriately and effectively in measures that will advance quality of health care and patient safety within the health care system.
- 3.2.6 Recognize and advocate health promotion, disease prevention and health care quality improvement through prevention and early recognition: in a) life style diseases and b) cancer, in collaboration with other members of the health care team.

3.3. *Communicator with patients, families, colleagues and community*

- 3.3.1 Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients in a language that the patient understands and in a manner that will improve patient satisfaction and health care outcomes.
- 3.3.2 Demonstrate ability to establish professional relationships with patients and families that are positive, understanding, humane, ethical, empathetic, and trustworthy.
- 3.3.3 Demonstrate ability to communicate with patients in a manner respectful of patient's preferences, values, prior experience, beliefs, confidentiality and privacy.

3.3.4 Demonstrate ability to communicate with patients, colleagues and families in a manner that encourages participation and shared decision-making.

3.4. Lifelong learner committed to continuous improvement of skills and knowledge

3.4.1. Demonstrate ability to perform an objective self-assessment of knowledge and skills, continue learning, refine existing skills and acquire new skills.

3.4.2. Demonstrate ability to apply newly gained knowledge or skills to the care of the patient.

3.4.3. Demonstrate ability to introspect and utilize experiences, to enhance personal and professional growth and learning.

3.4.4. Demonstrate ability to search (including through electronic means), and critically reevaluate the medical literature and apply the information in the care of the patient.

3.4.5. Be able to identify and select an appropriate career pathway that is professionally rewarding and personally fulfilling.

3.5. *Professional who is committed to excellence, is ethical, responsive and accountable to patients, community and the profession*

3.5.1. Practice selflessness, integrity, responsibility, accountability and respect.

3.5.2. Respect and maintain professional boundaries between patients, colleagues and society.

3.5.3. Demonstrate ability to recognize and manage ethical and professional conflicts.

3.5.4. Abide by prescribed ethical and legal codes of conduct and practice.

3.5.5. Demonstrate a commitment to the growth of the medical profession as a whole.

Section 2

Subject-wise outcomes

Section 2 contains subject-wise outcomes so called “sub-competencies” that must be achieved at the end of instruction in that subject. These are organised in tables and have two parts. The core subject outcomes are in first part. The second part in the same document (titled Integration) contains outcomes/competencies in other subjects which have been identified by experts in those subjects as requiring alignment or integration with the core subject.

Outcomes (competencies) in each subject are grouped according to topics number-wise. It is important to review the individual outcomes (competencies) in the light of the topic outcomes as a whole. For each competency outlined - the learning domains (Knowledge, Skill, Attitude, Communication) are identified. The expected level of achievement in that subject is identified as – [knows (K), knows how (KH), shows how (SH), perform (P)]. As a rule, ‘perform’ indicates independent performance without supervision and is required rarely in the pre-internship period. The outcome is a core (Y - must achieve) or a non-core (N - desirable) outcome. Suggested learning and assessment methods (these are suggestions) and explanation of the terms used are given under the section “definitions used in this document”. The suggested number of times a skill must be performed independently for certification in the learner’s log book is also given. Last two columns indicate subjects within the same phase and other phases with which the topic can be taught - together - aligned (temporal coordination), shared, correlated or nested.

The number of topics and competencies in each subject are given below:

Topics & outcomes in Pre-clinical & Para-clinical subjects

Sr. No.	Subjects	Number of topics	Number of outcomes
1.	Human Anatomy	82	409
2.	Physiology	11	137
3.	Biochemistry	11	89
4.	Pharmacology	05	85
5.	Pathology	36	182
6.	Microbiology	08	54
7.	Forensic Medicine & Toxicology	14	162
	Total	167	1118

Topics & outcomes in Medicine and Allied subjects

Sr. No.	Subjects	Number of topics	Number of outcomes
1.	Community Medicine	20	107
2.	General Medicine	26	506
3.	Respiratory Medicine	02	47
4.	Pediatrics	35	406
5.	Psychiatry	19	117
6.	Dermatology, Venereology & Leprosy	18	73
7.	Physical Medicine & Rehabilitation	09	43
	Total	129	1299

Topics & outcomes in Surgery and Allied subjects

Sr. No.	Subjects	Number of topics	Number of outcomes
1.	General Surgery	30	133
2.	Ophthalmology	09	60
3.	Otorhinolaryngology	04	76
4.	Obstetrics & Gynaecology	38	126
5.	Orthopedics	14	39
6.	Anesthesiology	10	46
7.	Radiodiagnosis	01	13
8.	Radiotherapy	05	16
9.	Dentistry	05	23
	Total	116	532

Section 3

Sample topics used for alignment & integration

Section 3 contains a sample selection of topics that run across the phases which can be used for alignment and integration. These are suggestions and institutions can select their own set of topics which can run across phases.

It is important to design the curriculum with a view to ensure with several broad outcomes in mind: a) achievement of the broad competencies by the learner at the end of the MBBS program, b) retain the subject - wise character of learning and assessment and ensure that phase-wise subject outcomes are met and assessed, c) teaching topics that are similar together thereby reducing redundancy and allowing the learner to integrate the concept as the most important step in integration (alignment or temporal coordination) (see document on integration), and d) align learning and assessment experiences to the outcome and the level of achievement specified.

Understanding the competencies table

Understanding the competencies table

A	B	C	D	E	F	G	H	I	J
No.	Competencies	Domain	K/KH/SH/P	Core	Suggested Teaching Learning Method	Suggested Assessment method	No. required to certify (P)	Vertical Integration	Horizontal Integration
Physiology									
Summary Name of Topic: General Physiology Number of Competencies: (08)									
PY1.1	Describe the structure and functions of a	K	KH	Y	Lectures, Small group discussion	Written/Viva			Biochemistry
IM15.4	Elicit <i>document</i> and present a medical history that helps delineate the	S	SH	Y	Bed Side clinic, DOAP	Skill assessment		Community Medicine	

Unique number of the competency. First two alphabets represent the subject (see list); number following alphabet reflects topic number, following period is a running number.

Description of competency

Identifies the domain or domains addressed
 K - Knowledge
 S - Skill
 A - Attitude
 C - Communication

Identifies the level of competency required based on the Miller's pyramid
 K - Knows
 KH - Knows How
 S - Skill
 SH - Show How
 P - Perform independently

Identifies if the competency is core or desirable.
 Y indicates Core;
 N-non-core

Identifies the suggested learning method.
 DOAP - Demonstrate (by Student) Observe, Assist Perform)

Identifies the suggested assessment method
 Skill assessment - Clinics, Skills lab, Practicals etc.

no of times a skill needs to be done independently to be certified for independent performance;
 Rarely used in UG

Subject (s) in other phases with which the competency can be vertically integrated to increase relevance or improve basic understanding

Subject (s) in the same phase with which the competency can be horizontally integrated or aligned to allow a more wholesome understanding

***Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents**

Deriving learning objectives from competencies

Deriving learning objectives from competencies

K	Knows	A knowledge attribute – Usually enumerates or describes
KH	Knows how	A higher level of knowledge – is able to discuss or analyse
S	Shows	A skill attribute: is able to identify or demonstrate the steps
SH	Shows how	A skill attribute: is able to interpret / demonstrate a complex procedure requiring thought, knowledge and behaviour
P	Performs (under supervision or independently)	Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

PA42.3*	Identify the etiology of meningitis based on given CSF parameters	K/S	SH	Y
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PA42.1*	At the end of the session the phase II student must be able to enumerate the most common causes of meningitis correctly
PA42.2*	At the end of the session the phase II student must be able to enumerate the components of CSF analysis correctly
PA42.3*	At the end of the session the phase II student must be able to describe the CSF features for a given etiology of meningitis accurately
PA42.4*	At the end of the session the phase II student must be able to identify the aetiology of meningitis correctly from a given set of CSF parameters

Audience - who will do the behavior

Behavior - What should the learner be able to do?

Condition - Under what conditions should the learner be able to do it?

Degree – How well must it be done

Objective: Statement of what a learner should be able to do at the end of a specific learning experience
***Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents**

Deriving learning methods from competencies

Deriving learning methods from competencies

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

PA42.3*	Identify the etiology of meningitis based on given CSF parameters	K/S	SH	Y
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Objective: Statement of what a learner should be able to do at the end of a specific learning experience

PA42.1*	At the end of the session the Phase II student must be able to enumerate the most common causes of meningitis correctly	Lecture, small group discussion
PA42.2*	At the end of the session the Phase II student must be able to enumerate the components of a CSF analysis correctly	Related objectives can be combined into one teaching session
PA42.3*	At the end of the session the Phase II student must be able to describe the CSF features for a given etiologic of meningitis accurately	
PA42.4*	At the end of the session the Phase II student must the able to identify the aetiology of meningitis correctly from a given set of CSF parameters	small group discussion, practical session

*Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents

Deriving assessment methods from competencies

Deriving assessment methods from competencies-1

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

PA42.3*	Identify the etiology of meningitis based on given CSF parameters	K/S	SH	Y
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Objective: Statement of what a learner should be able to do at the end of a specific learning experience

PA42.1*	At the end of the session the Phase II student must be able to enumerate the most common causes of meningitis correctly	Short note or part of structured essay: Enumerate 5 causes of meningitis based on their prevalence in India
PA42.2*	At the end of the session the Phase II student must be able to enumerate the components of a CSF analysis correctly	Short note or part of structured essay: Enumerate the components tested in a CSF analysis
PA42.3*	At the end of the session the Phase II student must be able to describe the CSF features for a given aetiology of meningitis accurately	Short note or part of structured essay: Describe the CSF findings that are characteristic of tuberculous meningitis
PA42.4*	At the end of the session the Phase II student must the able to identify the aetiology of meningitis correctly from a given set of CSF parameters	Short note / part of the structured essay/ Skill station/ Viva voce Review the CSF findings in the following patient and identify (write or vocalise) the most likely etiology

* Numbers given are for illustrative purposes only and should not be compared with numbers in the curriculum document

Deriving assessment methods from competencies-2

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

MI2.4*	List the common microbial agents causing anemia. Describe the morphology, mode of infection and discuss the pathogenesis, clinical course, diagnosis and prevention and treatment of the common microbial agents causing Anemia.	K	KH	Y	Didactic Small group discussion	Written/ Viva voce	Medicine	Pathology
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Objective: Statement of what a learner should be able to do at the end of a specific learning experience

MI2.1*	Enumerate the common microbial agents causing anaemia
MI2.2*	Describe the morphology of agent (1,2 etc)
MI2.3*	Describe the mode of infection of agent in humans
MI2.4*	Discuss the pathogenesis of anemia caused by agent
MI2.5*	Describe the clinical course of infection by agent
MI2.6*	Enumerate the diagnostic tests to identify the aetiology of agent as a cause of anemia
MI2.7*	Discuss the methods to prevent infection by agent
MI2.8*	Describe the treatment of infection by agent

Integrate concept - not necessarily teachers
Plan session with teachers of both subjects -teachers from both subjects usually not needed. Ensure redundancy and duplication by reviewing both subjects



Horizontally aligned and integrated with pathology

Vertically integrated with General Medicine



Integrate concept - not necessarily teachers Plan session with teachers from both phases. Make a decision on how much of the information needs to be brought down to this phase to make it relevant. Consider how a competency can ascend over phases: for eg. - can be at a KH -(know how) in phase II but becomes SH in phase III. For vertical integration with clinical subjects, use of a case to link the concept (a well written paper, case is sufficient). Using teachers from both phases is rarely required

The concept of integration

Concept of integration used in the Manual

Integration is a learning experience that allows the learner to perceive relationships from blocks of knowledge and develop a unified view of its basis and its application. The GMR 2018 applies these principles to the extent that will retain the strengths of silo - based education and assessment while providing experiences that will allow learners to integrate concepts.

Keeping this in mind, the Regulations recommend temporal coordination as described by Harden (called alignment in this document) as the major method to be followed allowing similar topics in different subjects to be thought separately but during the same time frame (Figure 1a).

In a small proportion - not to exceed 20% of the total curriculum an attempt can be made to Share (Figure 1b) topics or Correlate (Figure 1c) topics by using an integration session. The integration session most preferred will be a case based discussion in an appropriate format ensuring that elements in the same phase (horizontal) and from other phases are addressed. Care must be taken to ensure that achievement phase - based objectives are given primacy - the integrative elements from other phases are used only to provide adequate recall and understand the clinical application of concepts. It must be emphasized that integration does not necessarily require multiple teachers in each class. Experts from each phase and subject may be involved in the lesson planning but not it in its delivery unless deemed necessary.

As much as possible the necessary correlates from other phases must also be introduced while discussing a topic in a given subject - Nesting (Figure 1d) (Harden). Topics that cannot be aligned and integrated must be provided adequate time in the curriculum throughout the year.

Assessment will continue to be subject based. However, efforts must be made to ensure that phase appropriate correlates are tested to determine if the learner has internalized and integrated the concept and its application.

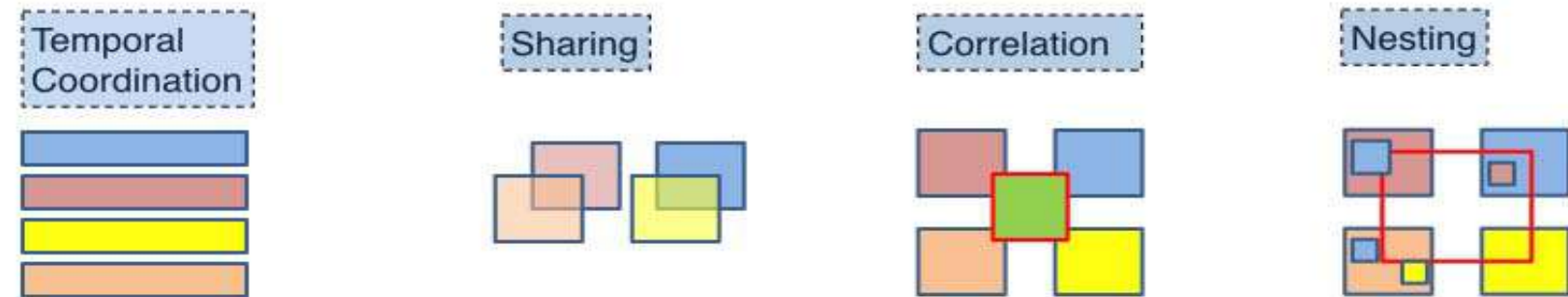


Figure 1 : Integration concepts framed in the GMR. Coloured boxes represent subjects. 1 a. Temporal coordination: The timetable is adjusted so that topics within the subjects or disciplines which are related, are scheduled at the same time. b. Sharing: Two disciplines may agree to plan and jointly implement a teaching program c. Correlation: the emphasis remains on disciplines or subjects with subject-based courses taking up most of the curriculum time. Within this framework, an integrated teaching session or course is introduced in addition to the subject-based teaching (green box with red border) d. Nesting: the teacher targets, within a subject-based course, skills relating to other subjects. Adapted from Harden R Med Edu 2000. 34; 551

Definitions used in the Manual

1. **Goal:** A projected state of affairs that a person or system plans to achieve.

In other words: Where do you want to go? or What do you want to become?

2. **Competency:** The habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served.

In other words: What should you have? or What should have changed?

3. **Objective:** Statement of what a learner should be able to do at the end of a specific learning experience.

In other words: What the Indian Medical Graduate should know, do, or behave.

Action Verbs used in this manual

Knowledge	Skill	Attitude/communicate
Enumerate	Identify	Counsel
List	Demonstrate	Inform
Describe	Perform under supervision	Demonstrate understanding of
Discuss	Perform independently	
Differentiate	Document	
Define	Present	
Classify	Record	
Choose	Interpret	
Elicit		
Report		

Note:

1. Specified essential competencies only will be required to be performed independently at the end of the final year MBBS.
2. The word ‘perform’ or ‘do’ is used ONLY if the task has to be done on patients or in laboratory practical in the pre/para- clinical phases.
3. Most tasks that require performance during undergraduate years will be performed under supervision.
4. If a certification to perform independently has been done, then the number of times the task has to be performed under supervision will be indicated in the last column.

Explanation of terms used in this manual

Lecture	Any instructional large group method including traditional lecture and interactive lecture
Small group discussion	Any instructional method involving small groups of students in an appropriate learning context
DOAP (Demonstration- Observation - Assistance - Performance)	A practical session that allows the student to observe a demonstration, assist the performer, perform in a simulated environment, perform under supervision or perform independently
Skill assessment	A session that assesses the skill of the student including those in the practical laboratory, skills lab, skills station that uses mannequins/ paper case/simulated patients/real patients as the context demands
Core	A competency that is necessary in order to complete the requirements of the subject (traditional must know)
Non-Core	A competency that is optional in order to complete the requirements of the subject (traditional nice (good) to know/ desirable to know)
National Guidelines	Health programs as relevant to the competency that are part of the National Health Program

Domains of learning

K	Knowledge
S	Skill
A	Attitude
C	Communication

Levels of competency

K	Knows	A knowledge attribute - Usually enumerates or describes
KH	Knows how	A higher level of knowledge - is able to discuss or analyze
S	Shows	A skill attribute: is able to identify or demonstrate the steps
SH	Shows how	A skill attribute: is able to interpret/ demonstrate a complex procedure requiring thought, knowledge and behavior
P	Performs (under supervision or independently)	Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results

Note:

In the table of competency - the highest level of competency acquired is specified and implies that the lower levels have been acquired already. Therefore, when a student is able to SH - Show how - an informed consent is obtained - it is presumed that the preceding steps - the knowledge, the analytical skills, the skill of communicating have all been obtained.

It may also be noted that attainment of the highest level of competency may be obtained through steps spread over several subjects or phases and not necessarily in the subject or the phase in which the competency has been identified.

Volume III

Competency based Undergraduate Curriculum in Surgery and Allied subjects

GENERAL SURGERY (CODE: SU)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
GENERAL SURGERY									
Topic: Metabolic response to injury Number of competencies: (03) Number of procedures that require certification: (NIL)									
SU1.1	Describe Basic concepts of homeostasis, enumerate the metabolic changes in injury and their mediators.	K	KH	Y	Lecture, Bed side clinic, Small group discussion	Written/ Viva voce		Physiology, Biochemistry	
SU1.2	Describe the factors that affect the metabolic response to injury.	K	KH	Y	Lecture, Bed side clinic, Small group discussion	Written/ Viva voce		Biochemistry	
SU1.3	Describe basic concepts of perioperative care.	K	KH	Y	Lecture, Bed side clinic, Small group discussion	Written/ Viva voce			
Topic: Shock Number of competencies: (03) Number of procedures that require certification: (NIL)									
SU2.1	Describe Pathophysiology of shock, types of shock & principles of resuscitation including fluid replacement and monitoring.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology, Physiology	
SU2.2	Describe the clinical features of shock and its appropriate treatment.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU2.3	Communicate and counsel patients and families about the treatment and prognosis of shock demonstrating empathy and care	A/C	SH	Y	DOAP session	Skill assessment		AETCOM	
Topic: Blood and blood components Number of competencies: (03) Number of procedures that require certification: (NIL)									
SU3.1	Describe the Indications and appropriate use of blood and blood products and complications of blood transfusion.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
SU3.2	Observe blood transfusions.	S	SH	Y	Small group discussion, DOAP session	Skills assessment/ Log book			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
SU3.3	Counsel patients and family/ friends for blood transfusion and blood donation.	A/C	SH	Y	DOAP session	Skills assessment			
Topic: Burns Number of competencies: (04) Number of procedures that require certification: (NIL)									
SU4.1	Elicit document and present history in a case of Burns and perform physical examination. Describe Pathophysiology of Burns.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology	
SU4.2	Describe Clinical features, Diagnose type and extent of burns and plan appropriate treatment.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU4.3	Discuss the Medicolegal aspects in burn injuries.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU4.4	Communicate and counsel patients and families on the outcome and rehabilitation demonstrating empathy and care.	A /C	SH	Y	Small group discussion, Role play, Skills assessment	Viva voce			
Topic: Wound healing and wound care Number of competencies: (04) Number of procedures that require certification: (NIL)									
SU5.1	Describe normal wound healing and factors affecting healing.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
SU5.2	Elicit, document and present a history in a patient presenting with wounds.	C	SH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU5.3	Differentiate the various types of wounds, plan and observe management of wounds.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU5.4	Discuss medico legal aspects of wounds	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Surgical infections Number of competencies: (02) Number of procedures that require certification: (NIL)									
SU6.1	Define and describe the aetiology and pathogenesis of surgical Infections	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
SU6.2	Enumerate Prophylactic and therapeutic antibiotics Plan appropriate management	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Surgical Audit and Research Number of competencies: (02) Number of procedures that require certification: (NIL)									
SU7.1	Describe the Planning and conduct of Surgical audit	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
SU7.2	Describe the principles and steps of clinical research in General Surgery	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	
Topic: Ethics Number of competencies: (03) Number of procedures that require certification: (NIL)									
SU8.1	Describe the principles of Ethics as it pertains to General Surgery	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment	-	Forensic Medicine, AETCOM	
SU8.2	Demonstrate Professionalism and empathy to the patient undergoing General Surgery	A/C	SH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		Forensic Medicine, AETCOM	
SU8.3	Discuss Medico-legal issues in surgical practice	A/C	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		Forensic Medicine, AETCOM	
Topic: Investigation of surgical patient Number of competencies (03) Number of procedures that require certification: (NIL)									
SU9.1	Choose appropriate biochemical, microbiological, pathological, imaging investigations and interpret the investigative data in a surgical patient	C	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Microbiology, Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
SU9.2	Biological basis for early detection of cancer and multidisciplinary approach in management of cancer	C	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU9.3	Communicate the results of surgical investigations and counsel the patient appropriately	C	SH	Y	DOAP session	Skill assessment			
Topic: Pre, intra and post- operative management. Number of competencies: (04) Number of procedures that require certification: (NIL)									
SU10.1	Describe the principles of perioperative management of common surgical procedures	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU10.2	Describe the steps and obtain informed consent in a simulated environment	S/A/C	SH	Y	DOAP session	Skill assessment/ Log book		AETCOM	
SU10.3	Observe common surgical procedures and assist in minor surgical procedures; Observe emergency lifesaving surgical procedures.	S	KH	Y	DOAP sessions	Log book			
SU10.4	Perform basic surgical Skills such as First aid including suturing and minor surgical procedures in simulated environment	S	P	Y	DOAP session	Skill assessment			
Topic: Anaesthesia and pain management Number of competencies: (06) Number of procedures that require certification: (NIL)									
SU11.1	Describe principles of Preoperative assessment.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Anaesthesiology
SU11.2	Enumerate the principles of general, regional, and local Anaesthesia.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Anaesthesiology
SU11.3	Demonstrate maintenance of an airway in a mannequin or equivalent	S	SH	Y	DOAP session	Skill assessment			Anaesthesiology
SU11.4	Enumerate the indications and principles of day care General Surgery	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
SU11.5	Describe principles of providing post-operative pain relief and management of chronic pain.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Anaesthesiology
SU11.6	Describe Principles of safe General Surgery	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Nutrition and fluid therapy Number of competencies: (03) Number of procedures that require certification: (NIL)									
SU12.1	Enumerate the causes and consequences of malnutrition in the surgical patient	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce		Physiology	
SU12.2	Describe and discuss the methods of estimation and replacement of the fluid and electrolyte requirements in the surgical patient	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce		Physiology	
SU12.3	Discuss the nutritional requirements of surgical patients, the methods of providing nutritional support and their complications	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce		Biochemistry	
Topic: Transplantation Number of competencies: (04) Number of procedures that require certification: (NIL)									
SU13.1	Describe the immunological basis of organ transplantation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
SU13.2	Discuss the Principles of immunosuppressive therapy.Enumerate Indications, describe surgical principles, management of organ transplantation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology, Pharmacology	
SU13.3	Discuss the legal and ethical issues concerning organ donation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		AETCOM	
SU13.4	Counsel patients and relatives on organ donation in a simulated environment	S	SH	Y	DOAP session	Skill assessment		AETCOM	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Basic Surgical Skills Number of competencies: (04) Number of procedures that require certification: (NIL)									
SU14.1	Describe Aseptic techniques, sterilization and disinfection.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
SU14.2	Describe Surgical approaches, incisions and the use of appropriate instruments in Surgery in general.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU14.3	Describe the materials and methods used for surgical wound closure and anastomosis (sutures, knots and needles)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU14.4	Demonstrate the techniques of asepsis and suturing in a simulated environment	S	SH	Y	DOAP session	Skill assessment/ Log book			
Topic: Biohazard disposal Number of competencies: (01) Number of procedures that require certification: (NIL)									
SU15.1	Describe classification of hospital waste and appropriate methods of disposal.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
Topic: Minimally invasive General Surgery Number of competencies: (01) Number of procedures that require certification: (NIL)									
SU16.1	Minimally invasive General Surgery: Describe indications advantages and disadvantages of Minimally invasive General Surgery	K	K	Y	Lecture, Demonstration, Bedside clinic, Discussion	Theory/ Practical / Orals/Written/ Viva voce			
Topic: Trauma Number of competencies: (10) Number of procedures that require certification: (NIL)									
SU17.1	Describe the Principles of FIRST AID	S	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU17.2	Demonstrate the steps in Basic Life Support. Transport of injured patient in a simulated environment	S	SH	Y	DOAP session	Skill assessment			Anaesthesiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
SU17.3	Describe the Principles in management of mass casualties	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU17.4	Describe Pathophysiology, mechanism of head injuries	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU17.5	Describe clinical features for neurological assessment and GCS in head injuries	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU17.6	Chose appropriate investigations and discuss the principles of management of head injuries	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU17.7	Describe the clinical features of soft tissue injuries. Chose appropriate investigations and discuss the principles of management.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU17.8	Describe the pathophysiology of chest injuries.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU17.9	Describe the clinical features and principles of management of chest injuries.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU17.10	Demonstrate Airway maintenance. Recognize and manage tension pneumothorax, hemothorax and flail chest in simulated environment.	S	SH	Y	DOAP session	Skill assessment/ Log book			Anaesthesiology
Topic: Skin and subcutaneous tissue Number of competencies: (03) Number of procedures that require certification: (NIL)									
SU18.1	Describe the pathogenesis, clinical features and management of various cutaneous and subcutaneous infections.	K	KH	Y	Lecture, Small group Discussion	Written/ Viva voce			
SU18.2	Classify skin tumors Differentiate different skin tumors and discuss their management.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment			
SU18.3	Describe and demonstrate the clinical examination of surgical patient including swelling and order relevant investigation for diagnosis. Describe and discuss appropriate treatment plan.	S	SH	Y	Bedside clinic, Small group discussion, DOAP session	Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Developmental anomalies of face, mouth and jaws Number of competencies: (02) Number of procedures that require certification: (NIL)									
SU19.1	Describe the etiology and classification of cleft lip and palate	K	KH	Y	Lecture, Small group Discussion	Written/ Viva voce		Human Anatomy	
SU19.2	Describe the Principles of reconstruction of cleft lip and palate	K	KH	Y	Lecture, Small group Discussion	Written/ Viva voce		Human Anatomy	
Topic: Oropharyngeal cancer Number of competencies: (02) Number of procedures that require certification: (NIL)									
SU20.1	Describe etiopathogenesis of oral cancer symptoms and signs of oropharyngeal cancer.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
SU20.2	Enumerate the appropriate investigations and discuss the Principles of treatment.	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Disorders of salivary glands Number of competencies: (02) Number of procedures that require certification: (NIL)									
SU21.1	Describe surgical anatomy of the salivary glands, pathology, and clinical presentation of disorders of salivary glands	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU21.2	Enumerate the appropriate investigations and describe the Principles of treatment of disorders of salivary glands	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Endocrine General Surgery: Thyroid and parathyroid Number of competencies: (06) Number of procedures that require certification: (NIL)									
SU22.1	Describe the applied anatomy and physiology of thyroid	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
SU22.2	Describe the etiopathogenesis of thyroidal swellings	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
SU22.3	Demonstrate and document the correct clinical examination of thyroid swellings and discuss the differential diagnosis and their management	S	SH	Y	Bedside clinic	Skill assessment			
SU22.4	Describe the clinical features, classification and principles of management of thyroid cancer	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU22.5	Describe the applied anatomy of parathyroid	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
SU22.6	Describe and discuss the clinical features of hypo - and hyperparathyroidism and the principles of their management	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
Topic: Adrenal glands Number of competencies: (03) Number of procedures that require certification: (NIL)									
SU23.1	Describe the applied anatomy of adrenal glands	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
SU23.2	Describe the etiology, clinical features and principles of management of disorders of adrenal gland	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
SU23.3	Describe the clinical features, principles of investigation and management of Adrenal tumors	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Pancreas Number of competencies: (03) Number of procedures that require certification: (NIL)									
SU24.1	Describe the clinical features, principles of investigation, prognosis and management of pancreatitis.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
SU24.2	Describe the clinical features, principles of investigation, prognosis and management of pancreatic endocrine tumours	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
SU24.3	Describe the principles of investigation and management of Pancreatic disorders including pancreatitis and endocrine tumors.	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
Topic: Breast Number of competencies: (05) Number of procedures that require certification: (NIL)									
SU25.1	Describe applied anatomy and appropriate investigations for breast disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		Human Anatomy	
SU25.2	Describe the etiopathogenesis, clinical features and principles of management of benign breast disease including infections of the breast	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment			
SU25.3	Describe the etiopathogenesis, clinical features, Investigations and principles of treatment of benign and malignant tumours of breast.	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment		Radiodiagnosis	
SU25.4	Counsel the patient and obtain informed consent for treatment of malignant conditions of the breast	A/ C	SH	Y	DOAP session	Skill assessment			
SU25.5	Demonstrate the correct technique to palpate the breast for breast swelling in a mannequin or equivalent	S	SH	Y	DOAP session	Skill assessment			
Topic: Cardio-thoracic General Surgery- Chest - Heart and Lungs Number of competencies: (04) Number of procedures that require certification: (NIL)									
SU26.1	Outline the role of surgery in the management of coronary heart disease, valvular heart diseases and congenital heart diseases	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
SU26.3	Describe the clinical features of mediastinal diseases and the principles of management	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
SU26.4	Describe the etiology, pathogenesis, clinical features of tumors of lung and the principles of management	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Vascular diseases Number of competencies: (08) Number of procedures that require certification: (NIL)									
SU27.1	Describe the etiopathogenesis, clinical features, investigations and principles of treatment of occlusive arterial disease.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment			
SU27.2	Demonstrate the correct examination of the vascular system and enumerate and describe the investigation of vascular disease	S	SH	Y	DOAP session	Skill assessment			
SU27.3	Describe clinical features, investigations and principles of management of vasospastic disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU27.4	Describe the types of gangrene and principles of amputation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment			
SU27.5	Describe the applied anatomy of venous system of lower limb	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
SU27.6	Describe pathophysiology, clinical features, Investigations and principles of management of DVT and Varicose veins	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
SU27.7	Describe pathophysiology, clinical features, investigations and principles of management of Lymph edema, lymphangitis and Lymphomas	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment			
SU27.8	Demonstrate the correct examination of the lymphatic system	S	SH	Y	DOAP session, Bedside clinic	Skill assessment			
Topic: Abdomen Number of competencies: (18) Number of procedures that require certification: (NIL)									
SU28.1	Describe pathophysiology, clinical features, Investigations and principles of management of Hernias	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
SU28.2	Demonstrate the correct technique to examine the patient with hernia and identify different types of hernias.	S	SH	Y	DOAP session, Bedside clinic	Skill assessment			
SU28.3	Describe causes, clinical features, complications and principles of mangament of peritonitis	K	K	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce			
SU28.4	Describe pathophysiology, clinical features, investigations and principles of management of Intra-abdominal abscess, mesenteric cyst, and retroperitoneal tumors	K	K	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
SU28.5	Describe the applied Anatomy and physiology of esophagus	K	K	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce		Human Anatomy, Physiology	
SU28.6	Describe the clinical features, investigations and principles of management of benign and malignant disorders of esophagus	K	K	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
SU28.7	Describe the applied anatomy and physiology of stomach	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
SU28.8	Describe and discuss the aetiology, the clinical features, investigations and principles of management of congenital hypertrophic pyloric stenosis, Peptic ulcer disease, Carcinoma stomach	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment			
SU28.9	Demonstrate the correct technique of examination of a patient with disorders of the stomach	S	SH	Y	DOAP session, Bedside clinic	Skill assessment			
SU28.10	Describe the applied anatomy of liver. Describe the clinical features, Investigations and principles of management of liver abscess, hydatid disease, injuries and tumors of the liver	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce		Human Anatomy	
SU28.11	Describe the applied anatomy of spleen. Describe the clinical features, investigations and principles of management of splenic injuries. Describe the post-splenectomy sepsis - prophylaxis	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce		Human Anatomy	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
SU28.12	Describe the applied anatomy of biliary system. Describe the clinical features, investigations and principles of management of diseases of biliary system	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce		Human Anatomy	
SU28.13	Describe the applied anatomy of small and large intestine	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce		Human Anatomy	
SU28.14	Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
SU28.15	Describe the clinical features, investigations and principles of management of diseases of Appendix including appendicitis and its complications.	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
SU28.16	Describe applied anatomy including congenital anomalies of the rectum and anal canal	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment		Human Anatomy	
SU28.17	Describe the clinical features, investigations and principles of management of common anorectal diseases	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
SU28.18	Describe and demonstrate clinical examination of abdomen. Order relevant investigations. Describe and discuss appropriate treatment plan	S	SH	Y	Bedside clinic, DOAP session, Small group discussion	Skill assessment			
Topic: Urinary System Number of competencies: (11) Number of procedures that require certification: (NIL)									
SU29.1	Describe the causes, investigations and principles of management of Hematuria	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU29.2	Describe the clinical features, investigations and principles of management of congenital anomalies of genitourinary system	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
SU29.3	Describe the Clinical features, Investigations and principles of management of urinary tract infections	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Microbiology	
SU29.4	Describe the clinical features, investigations and principles of management of hydronephrosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU29.5	Describe the clinical features, investigations and principles of management of renal calculi	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU29.6	Describe the clinical features, investigations and principles of management of renal tumours	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU29.7	Describe the principles of management of acute and chronic retention of urine	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU29.8	Describe the clinical features, investigations and principles of management of bladder cancer	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
SU29.9	Describe the clinical features, investigations and principles of management of disorders of prostate	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment			
SU29.10	Demonstrate a digital rectal examination of the prostate in a mannequin or equivalent	S	SH	Y	DOAP session	Skill assessment			
SU29.11	Describe clinical features, investigations and management of urethral strictures	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
Topic: Penis, Testis and scrotum Number of competencies: (06) Number of procedures that require certification: (NIL)									
SU30.1	Describe the clinical features, investigations and principles of management of phimosis, paraphimosis and carcinoma penis.	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
SU30.2	Describe the applied anatomy clinical features, investigations and principles of management of undescended testis.	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment		Human Anatomy	
SU30.3	Describe the applied anatomy clinical features, investigations and principles of management of epididymo-orchitis	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment		Human Anatomy	
SU30.4	Describe the applied anatomy clinical features, investigations and principles of management of varicocele	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment		Human Anatomy	
SU30.5	Describe the applied anatomy, clinical features, investigations and principles of management of Hydrocele	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment		Human Anatomy	
SU30.6	Describe classification, clinical features, investigations and principles of management of tumours of testis	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
	Column C: K- Knowledge, S – Skill , A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation								
Integration									
Human Anatomy									
AN6.3	Explain the concept of lymphoedema and spread of tumors via lymphatics and venous system	K	KH	N	Lecture	Written		General Surgery	
AN9.2	Breast-Describe the location, extent, deep relations, structure, age changes, blood supply, lymphatic drainage, microanatomy and applied anatomy of breast	K	KH	Y	Practical, Lecture	Written/ Viva voce		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN10.4	Describe the anatomical groups of axillary lymph nodes and specify their areas of drainage	K	KH	Y	Practical, Lecture	Written/ Viva voce		General Surgery	
AN10.6	Explain the anatomical basis of clinical features of Erb's palsy and Klumpke's paralysis	K	KH	N	Lecture	Written		General Surgery	
AN10.7	Explain anatomical basis of enlarged axillary lymph nodes	K	KH	N	Lecture	Written		General Surgery	
AN11.3	Describe the anatomical basis of Venepuncture of cubital veins	K	KH	Y	Practical, Lecture	Written/ Viva voce		General Surgery	
AN12.8	Describe anatomical basis of Claw hand	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN12.10	Explain infection of fascial spaces of palm	K	KH	N	Lecture	Written		General Surgery	
AN12.11	Identify, describe and demonstrate important muscle groups of dorsal forearm with attachments, nerve supply and actions	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN12.12	Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels of back of forearm	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN12.13	Describe the anatomical basis of Wrist drop	K	KH	Y	Lecture	Written/Viva voce		General Surgery	
AN12.14	Identify & describe compartments deep to extensor retinaculum	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN15.3	Describe and demonstrate boundaries, floor, roof and contents of femoral triangle	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN15.4	Explain anatomical basis of Psoas abscess & Femoral hernia	K	KH	N	Lecture, DOAP session	Written/ Viva voce		General Surgery	
AN16.2	Describe anatomical basis of sciatic nerve injury during gluteal intramuscular injections	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		General Surgery	
AN16.3	Explain the anatomical basis of Trendelenburg sign	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		General Surgery	
AN18.3	Explain the anatomical basis of foot drop	K	KH	Y	Lecture, DOAP session	Written/ Viva voce		General Surgery	
AN19.3	Explain the concept of "Peripheral heart"	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN20.4	Explain anatomical basis of enlarged inguinal lymph nodes	K	KH	N	Lecture	Written/ Viva voce		General Surgery	
AN20.5	Explain anatomical basis of varicose veins and deep vein thrombosis	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN20.9	Identify & demonstrate palpation of vessels (femoral, popliteal, dorsalis pedis, post tibial), Mid inguinal point, Surface projection of: femoral nerve, Saphenous opening, Sciatic, tibial, common peroneal & deep peroneal nerve, great and small saphenous veins	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Viva voce/ Skill assessment		General Medicine General Surgery	
AN23.1	Describe & demonstrate the external appearance, relations, blood supply, nerve supply, lymphatic drainage and applied anatomy of oesophagus	K/S	SH	Y	Practical, Lecture, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN23.2	Describe & demonstrate the extent, relations, tributaries of thoracic duct and enumerate its applied anatomy	K/S	SH	Y	Practical, Lecture, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN23.7	Mention the extent, relations and applied anatomy of lymphatic duct	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN27.1	Describe the layers of scalp, its blood supply, its nerve supply and surgical importance	K	KH	Y	Practical, Lecture	Written/ Viva voce		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN28.8	Explain surgical importance of deep facial vein	K	KH	Y	Lecture	Written		General Surgery	
AN28.9	Describe & demonstrate the parts, borders, surfaces, contents, relations and nerve supply of parotid gland with course of its duct and surgical importance	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN28.10	Explain the anatomical basis of Frey's syndrome	K	KH	N	Lecture	Written		General Surgery	
AN29.2	Explain anatomical basis of Erb's & Klumpke's palsy	K	KH	Y	Lecture	Written		General Surgery	
AN29.3	Explain anatomical basis of wry neck	K	KH	N	Lecture	Written		General Surgery	
AN30.1	Describe the cranial fossae & identify related structures.	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/Skill assessment		General Surgery	
AN30.2	Describe & identify major foramina with structures passing through them	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN33.2	Describe & demonstrate attachments, direction of fibres, nerve supply and actions of muscles of mastication	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN33.4	Explain the clinical significance of pterygoid venous plexus	K	KH	Y	Lecture	Written		General Surgery	
AN33.5	Describe the features of dislocation of temporomandibular joint	K	KH	N	Lecture	Written		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN34.1	Describe & demonstrate the morphology, relations and nerve supply of submandibular salivary gland & submandibular ganglion	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN34.2	Describe the basis of formation of submandibular stones	K	KH	N	Lecture	Written		General Surgery	
AN35.2	Describe & demonstrate location, parts, borders, surfaces, relations & blood supply of thyroid gland	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN35.5	Describe & demonstrate extent, drainage & applied anatomy of cervical lymph nodes	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN35.8	Describe the anatomically relevant clinical features of Thyroid swellings	K	KH	N	Lecture	Written		General Surgery	
AN35.9	Describe the clinical features of compression of subclavian artery and lower trunk of brachial plexus by cervical rib	K	KH	N	Lecture	Written		General Surgery	
AN43.5	Demonstrate- 1) Testing of muscles of facial expression, extraocular muscles, muscles of mastication, 2) Palpation of carotid arteries, facial artery, superficial temporal artery, 3) Location of internal and external jugular veins, 4) Location of hyoid bone, thyroid cartilage and cricoid cartilage with their vertebral levels	K/S	SH	Y	Practical	Viva voce/ Skill assessment		General Surgery	
AN43.6	Demonstrate surface projection of Thyroid gland, Parotid gland and duct, Pterion, Common carotid artery, Internal jugular vein, Subclavian vein, External jugular vein, Facial artery in the face & Accessory nerve	K/S	SH	N	Practical	Viva voce/ Skill assessment		General Surgery	
AN44.1	Describe & demonstrate the Planes (transpyloric, transtubercular, subcostal, lateral vertical, linea alba, linea semilunaris), regions & Quadrants of abdomen	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN44.4	Describe & demonstrate extent, boundaries, contents of Inguinal canal including Hesselbach's triangle.	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN44.5	Explain the anatomical basis of inguinal hernia.	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN44.6	Describe & demonstrate attachments of muscles of anterior abdominal wall	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN44.7	Enumerate common Abdominal incisions	K	KH	N	Lecture	Written		General Surgery	
AN46.1	Describe & demonstrate coverings, internal structure, side determination, blood supply, nerve supply, lymphatic drainage & descent of testis with its applied anatomy	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN46.4	Explain the anatomical basis of varicocele	K	KH	N	Lecture	Written		General Surgery	
AN46.5	Explain the anatomical basis of Phimosi s & Circumcision	K	KH	N	Lecture	Written		General Surgery	
AN47.1	Describe & identify boundaries and recesses of Lesser & Greater sac	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN47.2	Name & identify various peritoneal folds & pouches with its explanation.	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN47.3	Explain anatomical basis of Ascites & Peritonitis	K	KH	N	Lecture	Written		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN47.4	Explain anatomical basis of Subphrenic abscess	K	KH	N	Lecture	Written		General Surgery	
AN47.5	Describe & demonstrate major viscera of abdomen under following headings (anatomical position, external and internal features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and applied aspects)	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written		General Surgery	
AN47.6	Explain the anatomical basis of Splenic notch, accessory spleens, Kehr's sign, different types of vagotomy, liver biopsy (site of needle puncture), referred pain in cholecystitis, Obstructive jaundice, referred pain around umbilicus, radiating pain of kidney to groin & Lymphatic spread in carcinoma stomach	K	KH	N	Lecture	Written		General Surgery	
AN47.7	Mention the clinical importance of Calot's triangle	K	KH	N	Lecture	Written		General Surgery	
AN47.10	Enumerate the sites of portosystemic anastomosis	K	KH	Y	Lecture	Written		General Surgery	
AN47.11	Explain the anatomic basis of hematemesis & caput medusae in portal hypertension	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN47.14	Describe the abnormal openings of thoracoabdominal diaphragm and diaphragmatic hernia	K	KH	N	Lecture	Written		General Surgery	
AN48.5	Explain the anatomical basis of suprapubic cystostomy, Urinary obstruction in benign prostatic hypertrophy, Retroverted uterus, Prolapse uterus, Internal and external haemorrhoids, Anal fistula, Vasectomy, Tubal pregnancy & Tubal ligation	K	KH	N	Lecture	Written		General Surgery	
AN48.6	Describe neurological basis of automatic bladder	K	KH	N	Lecture	Written		General Surgery	
AN48.7	Mention the lobes involved in benign prostatic hypertrophy & prostatic cancer	K	KH	N	Lecture	Written		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN48.8	Mention the structures palpable during vaginal & rectal examination	K	KH	N	Lecture	Written		Obstetrics & Gynaecology General Surgery	
AN49.4	Describe & demonstrate boundaries, content & applied anatomy of Ischiorectal fossa	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		General Surgery	
AN52.5	Describe the development and congenital anomalies of diaphragm	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN52.6	Describe the development and congenital anomalies of foregut, midgut & hindgut	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN52.7	Describe the development of urinary system	K	KH	Y	Lecture	Written/ Viva voce		General Surgery	
AN53.1	Identify & hold the bone in the anatomical position, describe the salient features, articulations & demonstrate the attachments of muscle groups	K/S	SH	Y	Lecture, DOAP session	Viva voce/ Skill assessment		General Surgery, Obstetrics & Gynaecology	
AN55.1	Demonstrate the surface marking of regions and planes of abdomen, superficial inguinal ring, deep inguinal ring, McBurney's point, Renal Angle & Murphy's point	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Viva voce/ Skill assessment		General Surgery	
AN55.2	Demonstrate the surface projections of: stomach, liver, fundus of gall bladder, spleen, duodenum, pancreas, ileocaecal junction, kidneys & root of mesentery	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Viva voce/ Skill assessment		General Surgery	
Biochemistry									
BI10.1	Describe the cancer initiation promotion oncogenes & oncogene activation.	K	KH	Y	Lectures, Small group discussion	Written/ viva voce		Obstetrics & Gynaecology, General Surgery, Pathology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
BI10.2	Describe various biochemical tumor markers and the biochemical basis of cancer therapy.	K	KH	Y	Lectures, Small group discussion	Written/ viva voce		Obstetrics & Gynaecology, General Surgery, Pathology	
BI10.3	Describe the cellular and humoral components of the immune system & describe the types and structure of antibody	K	KH	Y	Lectures, Small group discussion	Written/ viva voce		Obstetrics & Gynaecology, General Surgery, Pathology	
Pathology									
PA4.1	Define and describe the general features of acute and chronic inflammation including stimuli, vascular and cellular events	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA4.2	Enumerate and describe the mediators of acute inflammation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA5.1	Define and describe the process of repair and regeneration including wound healing and its types	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA6.3	Define and describe shock, its pathogenesis and its stages	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA8.1	Describe the diagnostic role of cytology and its application in clinical care	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA8.2	Describe the basis of exfoliative cytology including the technique, stains used	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ Skill assessment		General Surgery	
PA19.1	Enumerate the causes and describe the differentiating features of lymphadenopathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA19.2	Describe the pathogenesis and pathology of tuberculous lymphadenitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA19.4	Describe and discuss the pathogenesis pathology and the differentiating features of Hodgkin's and non-Hodgkin's lymphoma	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PA19.5	Identify and describe the features of Hodgkin's lymphoma in a gross and microscopic specimen	S	SH	Y	DOAP session	Skill assessment		General Surgery	
PA19.6	Enumerate and differentiate the causes of splenomegaly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	
PA22.4	Enumerate blood components and describe their clinical uses	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	
PA24.4	Describe and etiology and pathogenesis and pathologic features of carcinoma of the stomach	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA24.5	Describe and etiology and pathogenesis and pathologic features of Tuberculosis of the intestine	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA24.6	Describe and etiology and pathogenesis and pathologic and distinguishing features of inflammatory bowel disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA24.7	Describe the etiology and pathogenesis and pathologic and distinguishing features of carcinoma of the colon	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA25.2	Describe the pathophysiology and pathologic changes seen in hepatic failure and their clinical manifestations, complications and consequences	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	
PA25.4	Describe the pathophysiology, pathology and progression of alcoholic liver disease including cirrhosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	
PA25.5	Describe the etiology, pathogenesis and complications of portal hypertension	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine, General Surgery	
PA28.10	Describe the etiology, pathogenesis, pathology, laboratory findings, distinguishing features progression and complications of acute and chronic pyelonephritis and reflux nephropathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PA28.13	Define, classify and describe the etiology, pathogenesis, pathology, laboratory urinary findings, distinguishing features, progression and complications of renal stone disease and obstructive uropathy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA28.16	Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of urothelial tumors	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA29.1	Classify testicular tumors and describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of testicular tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA29.2	Describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the penis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA29.3	Describe the pathogenesis, pathology, hormonal dependency, presenting and distinguishing features, urologic findings and diagnostic tests of benign prostatic hyperplasia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA29.4	Describe the pathogenesis, pathology, hormonal dependency, presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the prostate	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA29.5	Describe the etiology, pathogenesis, pathology and progression of prostatitis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA31.1	Classify and describe the types, etiology, pathogenesis, pathology and hormonal dependency of benign breast disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, General Surgery	
PA31.2	Classify and describe the epidemiology, pathogenesis, classification, morphology, prognostic factors, hormonal dependency, staging and spread of carcinoma of the breast	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PA31.3	Describe and identify the morphologic and microscopic features of carcinoma of the breast	S	SH	N	DOAP session	Skill assessment		General Surgery	
PA32.1	Enumerate, classify and describe the etiology, pathogenesis, pathology and iodine dependency of thyroid swellings	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy , Physiology, General Medicine, Pathology	
PA32.6	Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications and metastases of pancreatic cancer	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
PA32.9	Describe the etiology, pathogenesis, manifestations, laboratory and morphologic features of adrenal neoplasms	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Physiology, General Medicine, General Surgery	
Microbiology									
MI1.4	Classify and describe the different methods of sterilization and disinfection. Discuss the application of the different methods in the laboratory, in clinical and surgical practice	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
MI1.5	Choose the most appropriate method of sterilization and disinfection to be used in specific situations in the laboratory, in clinical and surgical practice	K	KH	Y	Small group discussions, Case discussion	Written/ Viva voce/ OSPE		General Surgery	
MI7.1	Describe the etio-pathogenesis and discuss the laboratory diagnosis of infections of genitourinary system	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
MI8.7	Demonstrate Infection control practices and use of Personal Protective Equipments (PPE)	S	P	Y	DOAP session	Skill assessment	3 each in (Hand hygiene & PPE)	General Surgery	Community Medicine
Community Medicine									
CM13.1	Define and describe the concept of Disaster management	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	
CM13.2	Describe disaster management cycle	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, General Medicine	
CM13.3	Describe man-made disasters in the world and in India	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Surgery, General Medicine	
CM13.4	Describe the details of the National Disaster management Authority	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Surgery, General Medicine	
Forensic Medicine & Toxicology									
FM1.9	Describe the importance of documentation in medical practice in regard to medicolegal examinations, Medical Certificates and medicolegal reports especially --maintenance of patient case records, discharge summary, prescribed registers to be maintained in Health Centres. -- maintenance of medico-legal register like accident register. -- documents of issuance of wound certificate -- documents of issuance of drunkenness certificate. -- documents of issuance of sickness and fitness certificate. -- documents for issuance of death certificate. -- documents of Medical Certification of Cause of Death - Form Number 4 and 4A -- documents for estimation of age by physical, dental and radiological examination and issuance of certificate	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Radiodiagnosis, General Surgery, General Medicine, Pediatrics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM2.19	Investigation of anaesthetic, operative deaths:Describe and discuss special protocols for conduction of autopsy and for collection, preservation and dispatch of related material evidences	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Anesthesiology, General Surgery	
FM2.25	Describe types of injuries, clinical features, patho-physiology, post-mortem findings and medico-legal aspects in cases of burns, scalds, lightening, electrocution and radiations.	K	KH	Y	Lecture, Small group discussion, Autopsy, DOAP session	Written/ Viva voce/ OSPE		General Surgery	
FM3.3	Mechanical injuries and wounds: Define, describe and classify different types of mechanical injuries, abrasion, bruise, laceration, stab wound, incised wound, chop wound, defense wound, self-inflicted/fabricated wounds and their medico-legal aspects.	K	KH	Y	Lectures, Small group discussion, Bed side clinic/ DOAP session	Written/ Viva voce/ OSCE		General Surgery	
FM3.4	Mechanical injuries and wounds: define injury, assault & hurt. Describe IPC pertaining to injuries	K	KH	Y	Lectures, Small group discussion	Written/ Viva voce		General Surgery	
FM3.6	Mechanical injuries and wounds:Describe healing of injury and fracture of bones with its medico-legal importance	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	
FM3.8	Mechanical injuries and wounds:Describe and discuss different types of weapons including dangerous weapons and their examination.	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, Orthopaedics	
FM3.9	Firearm injuries:Describe different types of firearms including structure and components, along with description of ammunition propellant charge and mechanism of fire-arms, different types of cartridges and bullets and various terminology in relation of firearm – caliber, range, choking.	K	K/KH	Y	Lecture, Small group discussion	Written/Viva voce		General Surgery, Orthopaedics	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM3.10	Firearm injuries: Describe and discuss wound ballistics-different types of firearm injuries, blast injuries and their interpretation, preservation and dispatch of trace evidences in cases of firearm and blast injuries, various tests related to confirmation of use of firearms	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, DOAP session	Written/ Viva voce/ OSCE		General Surgery, Orthopaedics	
FM3.11	Regional Injuries: Describe and discuss regional injuries to head (Scalp wounds, fracture skull, intracranial haemorrhages, coup and contrecoup injuries), neck, chest, abdomen, limbs, genital organs, spinal cord and skeleton	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic or autopsy, DOAP session	Written/ Viva voce/ OSCE/OSPE		General Surgery, Orthopaedics	
FM3.12	Regional Injuries: Describe and discuss injuries related to fall from height and vehicular injuries – Primary and Secondary impact, Secondary injuries, crush syndrome, railway spine.	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic or autopsy, DOAP session	Written/ Viva voce/ OSCE/OSPE		General Surgery, Orthopaedics	
Dermatology, Venereology & Leprosy									
DR15.3	Enumerate the indications and describe the pharmacology, indications and adverse reactions of topical and systemic drugs used in treatment of pyoderma	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		General Surgery	Microbiology, Pharmacology
DR15.4	Enumerate the indications for surgical referral	S	KH	Y	DOAP session	Written/Viva voce		General Surgery	
Anesthesiology									
AS3.1	Describe the principles of preoperative evaluation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Surgery, General Medicine
AS3.2	Elicit, present and document an appropriate history including medication history in a patient undergoing Surgery as it pertains to a preoperative anaesthetic evaluation	S	SH	Y	DOAP session, Bedside clinic	Skill station			General Surgery, General Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AS3.3	Demonstrate and document an appropriate clinical examination in a patient undergoing General Surgery	S	SH	Y	DOAP session, Bedside clinic	Skill station			General Surgery, General Medicine
AS3.4	Choose and interpret appropriate testing for patients undergoing Surgery	S	SH	Y	DOAP session, Bedside clinic	Skill station			General Surgery, General Medicine
AS3.5	Determine the readiness for General Surgery in a patient based on the preoperative evaluation	S	SH	Y	DOAP session, Bedside clinic	Skill station			General Surgery, General Medicine
AS5.6	Observe and describe the principles and steps/ techniques involved in common blocks used in Surgery(including brachial plexus blocks)	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			General Surgery
AS6.3	Describe the common complications encountered by patients in the recovery room, their recognition and principles of management	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			General Surgery
AS9.3	Describe the principles of fluid therapy in the preoperative period	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			General Surgery
AS9.4	Enumerate blood products and describe the use of blood products in the preoperative period	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pathology	General Surgery
AS10.3	Describe the role of communication in patient safety	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		AETCOM	General Surgery
General Medicine									
IM5.8	Describe and discuss the pathophysiology, clinical evolution and complications of cholelithiasis and cholecystitis	K	K	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM5.13	Enumerate the indications for ultrasound and other imaging studies including MRCP and ERCP and describe the findings in liver disease	K	K	Y	Bed side clinic, Small group discussion	Written/ Viva voce		Radiodiagnosis	General Surgery
IM5.16	Describe and discuss the management of hepatitis, cirrhosis, portal hypertension, ascites, spontaneous, bacterial peritonitis and hepatic encephalopathy	K	KH	Y	Written, Small group discussion	Skill assessment/ Written/ Viva voce		Pharmacology	General Surgery
IM5.18	Enumerate the indications for hepatic transplantation	K	K	Y	Written, Small group discussion	Written/ Viva voce			General Surgery
IM12.6	Perform and demonstrate a systematic examination based on the history that will help establish the diagnosis and severity including systemic signs of thyrotoxicosis and hypothyroidism, palpation of the pulse for rate and rhythm abnormalities, neck palpation of the thyroid and lymph nodes and cardiovascular findings	S	SH	Y	Bed side clinic, DOAP session	Skill assessment			General Surgery
IM12.7	Demonstrate the correct technique to palpate the thyroid	S	SH	Y	Bedside clinic, DOAP session	Skill assessment			General Surgery
IM12.8	Generate a differential diagnosis based on the clinical presentation and prioritise it based on the most likely diagnosis	K	KH	Y	Bedside clinic, small group discussion	Short case			General Surgery
IM12.9	Order and interpret diagnostic testing based on the clinical diagnosis including CBC, thyroid function tests and ECG and radio iodine uptake and scan	S	SH	Y	Bed side clinic, DOAP session	Skill assessment			General Surgery
IM12.10	Identify atrial fibrillation, pericardial effusion and bradycardia on ECG	S	SH	Y	Bedside clinic, lab	Skill assessment			General Surgery
IM12.11	Interpret thyroid function tests in hypo-and hyperthyroidism	S	SH	Y	Bedside clinic, lab	Skill assessment			General Surgery
IM12.13	Describe the pharmacology, indications, adverse reaction, interactions of thyroxine and antithyroid drugs	K	KH	Y	Lecture, Small group discussion	Viva voce/ Short note		Pharmacology	General Surgery
IM12.15	Describe and discuss the indications of thionamide therapy, radio iodine therapy and Surgery in the management of thyrotoxicosis	K	KH	Y	Bedside clinic, Small group discussion	Short note/ Viva voce, Skill assessment		Pharmacology	General Surgery

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM13.7	Elicit document and present a history that will help establish the aetiology of cancer and includes the appropriate risk factors, duration and evolution	S	K	Y	Bedside clinic	Skill assessment/ Short case			General Surgery
IM13.8	Perform and demonstrate a physical examination that includes an appropriate general and local examination that excludes the diagnosis, extent spread and complications of cancer	S	SH	Y	Bedside clinic	Skill assessment/ Short case			General Surgery
IM13.9	Demonstrate in a mannequin the correct technique for performing breast exam, rectal examination and cervical examination and pap smear	S	K	Y	Bedside clinic	Skill assessment/ Short case		Human Anatomy	General Surgery
IM13.10	Generate a differential diagnosis based on the presenting symptoms and clinical features and prioritise based on the most likely diagnosis	S	K	Y	Bedside clinic	Skill assessment/ Short case			General Surgery
IM13.13	Describe and assess pain and suffering objectively in a patient with cancer	K	KH	Y	Bedside clinic, Small group discussion	Short note/ Viva voce		Pharmacology	General Surgery
IM13.14	Describe the indications for General Surgery, radiation and chemotherapy for common malignancies	K	KH	Y	Bedside clinic, Small group discussion	Short note/ Viva voce		Pharmacology	General Surgery
IM14.14	Describe and enumerate the indications and side effects of bariatric surgery	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce			General Surgery
IM15.1	Enumerate, describe and discuss the aetiology of upper and lower GI bleeding	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology	General Surgery
IM15.2	Enumerate describe and discuss the evaluation and steps involved in stabilizing a patient who presents with acute volume loss and GI bleed	S	SH	Y	DOAP session, Small group discussion, Lecture	Written/ Viva voce/ Skill assessment		Pathology	General Surgery
IM15.3	Describe and discuss the physiologic effects of acute blood and volume loss	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology, Physiology	General Surgery
IM15.4	Elicit document and present an appropriate history that identifies the route of bleeding, quantity, grade, volume loss, duration, etiology, comorbid illnesses and risk factors	S	SH	Y	Bedside clinic	Skill assessment			General Surgery

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM15.5	Perform, demonstrate and document a physical examination based on the history that includes general examination, volume assessment and appropriate abdominal examination	S	SH	Y	Bedside clinic, Skills lab	Skill assessment			General Surgery
IM15.6	Distinguish between upper and lower gastrointestinal bleeding based on the clinical features	S	KH	Y	Lecture, Small group discussion	Short note/ Viva voce			General Surgery
IM15.7	Demonstrate the correct technique to perform an anal and rectal examination in a mannequin or equivalent	S	SH	Y	DOAP session	Skill assessment			General Surgery
IM15.8	Generate a differential diagnosis based on the presenting symptoms and clinical features and prioritise based on the most likely diagnosis	S	SH	Y	Bedside clinic, Skills lab	Skill assessment/ Short note/ Viva voce			General Surgery
IM15.9	Choose and interpret diagnostic tests based on the clinical diagnosis including complete blood count, PT and PTT, stool examination, occult blood, liver function tests, H.pylori test.	S	SH	Y	Bedside clinic, DOAP session, Small group discussion	Skill assessment/ Short note/ Viva voce		Pathology	General Surgery
IM15.10	Enumerate the indications for endoscopy, colonoscopy and other imaging procedures in the investigation of Upper GI bleeding	K	KH	Y	Lectures, Small group discussion	Written/ Viva voce			General Surgery
IM15.11	Develop, document and present a treatment plan that includes fluid resuscitation, blood and blood component transfusion, and specific therapy for arresting blood loss	S	KH	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology	General Surgery
IM15.12	Enumerate the indications for whole blood, component and platelet transfusion and describe the clinical features and management of a mismatched transfusion	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology	General Surgery
IM15.13	Observe cross matching and blood / blood component transfusion	S	SH	Y	Bedside clinic	Short note/ Viva voce/ Skill assessment		Pathology	General Surgery
IM15.14	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy of pressors used in the treatment of Upper GI bleed	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pharmacology	General Surgery

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM15.15	Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy of acid peptic disease including Helicobacter pylori	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce		Pharmacology, Microbiology	General Surgery
IM15.16	Enumerate the indications for endoscopic interventions and Surgery	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce			General Surgery
IM15.17	Determine appropriate level of specialist consultation	S	K	Y	Small group discussion				General Surgery
IM15.18	Counsel the family and patient in an empathetic non-judgmental manner on the diagnosis and therapeutic options	S	SH	Y	DOAP session	Skill assessment			General Surgery
IM16.12	Enumerate and discuss the indications for further investigations including antibodies, colonoscopy, diagnostic imaging and biopsy in the diagnosis of chronic diarrhea	K	KH	Y	Lectures, Small group discussion	Written/ Viva voce		Pathology	General Surgery
IM16.15	Distinguish, based on the clinical presentation, Crohn's disease from ulcerative colitis	S	SH	Y	Lecture, Small group discussion	Short note/ Viva voce		Pathology	General Surgery
IM16.17	Describe and enumerate the indications for Surgery in inflammatory bowel disease	K	K	Y	Lecture, Small group discussion	Short note/ Viva voce			General Surgery
IM18.15	Enumerate the indications for Surgery in a hemorrhagic stroke	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			General Surgery
IM19.9	Enumerate the indications for use of Surgery and botulinum toxin in the treatment of movement disorders	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	General Surgery
IM22.2	Describe the aetiology, clinical manifestations, diagnosis and clinical approach to primary hyperparathyroidism	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Pathology	General Surgery

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM24.11	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of the elderly undergoing surgery	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Anesthesiology, General Surgery
Obstetrics & Gynaecology									
OG26.2	Describe the causes, prevention, clinical features, principles of management of genital injuries and fistulae	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			General Surgery
OG33.2	Describe the principles of management including Surgery and radiotherapy of benign, pre-malignant (CIN) and malignant Lesions of the Cervix	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Surgery
Pediatrics									
PE21.8	Elicit, document and present a history pertaining to diseases of the Genitourinary tract00	S	SH	Y	Bedside clinics, Skills lab	Skill Assessment			General Surgery
PE21.14	Recognize common surgical conditions of the abdomen and genitourinary system and enumerate the indications for referral including acute and subacute intestinal obstruction, appendicitis pancreatitis perforation intussusception, Phimosis, undescended testis, Chordee, hypospadiasis, Torsion testis, hernia Hydrocele, Vulval Synechiae	S	SH	Y	Bed side clinics, Skills lab	Log book assessment			General Surgery
Orthopedics									
OR1.1	Describe and discuss the principles of pre-hospital care and casualty management of a trauma victim including principles of triage	K/S/A/C	K/KH	Y	Lecture with video, Small group discussion	Written/ Viva voce/ OSCE/ Simulation			General Surgery - Anaesthesiology
OR1.2	Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of management of shock	K/S	K/KH	Y	Lecture	Written/ Viva voce/ OSCE/ Simulation			General Surgery

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OR1.3	Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of management of soft tissue injuries	K	KH/ SH	Y	Lecture, Small group discussion	Written/ OSCE			General Surgery
OR1.4	Describe and discuss the principles of management of soft tissue injuries	K	K/KH	Y	Lecture, Small group discussion	Written Assesment/ Viva voce			General Surgery
OR3.1	Describe and discuss the aetiopathogenesis, clinical features, Investigations and principles of management of Bone and Joint infections a) Acute Osteomyelitis b) Subacute osteomyelitis c) Acute Suppurative arthritis d) Septic arthritis & HIV infection e) Spirochaetal infection f) Skeletal Tuberculosis	K/S	K/KH/ SH	Y	Lecture, Small group discussion, Video assisted lecture	Written/ Viva voce/ OSCE		Pathology, Microbiology	General surgery
OR3.3	Participate as a member in team for procedures like drainage of abscess, sequestrectomy/ saucerisation and arthrotomy	K/S/A/C	SH	Y	DOAP session, Video demonstration	Viva voce/ OSCE/ Skills assessment			General Surgery
OR4.1	Describe and discuss the clinical features, Investigation and principles of management of Tuberculosis affecting major joints (Hip, Knee) including cold abscess and caries spine	K	K/KH	Y	Lecture, Small group discussion, Case discussion	Written/ Viva voce/ OSCE		Pathology	General surgery
OR10.1	Describe and discuss the aetiopathogenesis, clinical features, Investigations and principles of management of benign and malignant bone tumours and pathological fractures	K	K/KH	Y	Lecture, Small group discussion, Video assisted interactive lecture	Written/ Viva voce OSCE		Pathology	General surgery, Radiotherapy
OR11.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of peripheral nerve injuries in diseases like foot drop, wrist drop, claw hand, palsies of Radial, Ulnar, Median, Lateral Popliteal and Sciatic Nerves	K	K/H	Y	Lecture Small Group discussion, Case discussion	Written/ Viva voce/ OSCE		Human Anatomy	General Medicine, General surgery
Physical Medicine & Rehabilitation									
PM5.1	Enumerate the indications and describe the principles of amputation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics, General Surgery

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PM7.8	Enumerate the causes of, describe, classify Pressure sores, prevention, and treatment.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Surgery
PM7.9	Enumerate the indications of debridement, and Split thickness skin grafting.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Surgery
PM8.1	Describe the clinical features, evaluation, diagnosis and management of disability following traumatic brain injury	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Orthopedics, General Surgery
Radiotherapy									
RT1.1	Describe and discuss definition of radiation, mechanism of action of radiation, types of radiation	K	KH	Y	Lecture	Written/ Viva voce			General Surgery Anaesthesiology
RT1.3	Enumerate, describe and discuss and classify staging of cancer (AJCC, FIGO etc.)	K	KH	Y	Lecture	Written/ Viva voce		Pathology	General Surgery, General Medicine
RT4.5	Describe and discuss role of radiation in management of common malignancies in India (region specific)	K	KH	Y	Lecture, Bed side clinic	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology
RT4.6	Describe and discuss radiotherapy for benign disease	K	KH	Y	Lecture	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology
RT4.7	Counsel patients regarding acute and late effects of radiation and supportive care	K/A/S	KH	Y	Bedside clinic, Group discussion	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology
RT4.8	Describe oncological emergencies and palliative care	K/A/S	K/KH	Y	Lecture, Group discussion	Written/ Viva voce			General Surgery, Obstetrics & Gynaecology
RT5.1	Describe and discuss cancer prevention, screening, vaccination, cancer registry	K	K	Y	Group discussion	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology

OPHTHALMOLOGY (CODE: OP)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OPHTHALMOLOGY									
Topic: Visual Acuity Assessment		Number of Competenscs: (05)			Number of procedures that require certification : (NIL)				
OP1.1	Describe the physiology of vision	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology	
OP1.2	Define, classify and describe the types and methods of correcting refractive errors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP1.3	Demonstrate the steps in performing the visual acuity assessment for distance vision, near vision, colour vision, the pin hole test and the menace and blink reflexes	S	SH	Y	DOAP session, Lecture	Skill assessment/ Logbook			
OP1.4	Enumerate the indications and describe the principles of refractive surgery	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP1.5	Define, enumerate the types and the mechanism by which strabismus leads to amblyopia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Lids and Adnexa, Orbit		Number of Competencies: (08)			Number of procedures that require certification: (NIL)				
OP2.1	Enumerate the causes, describe and discuss the aetiology, clinical presentations and diagnostic features of common conditions of the lid and adnexa including Hordeolum externum/ internum, blepharitis, preseptal cellulitis, dacryocystitis, hemangioma, dermoid, ptosis, entropion, lid lag, lagophthalmos	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
OP2.2	Demonstrate the symptoms & clinical signs of conditions enumerated in OP2.1	S	S	Y	DOAP session	Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OP2.3	Demonstrate under supervision clinical procedures performed in the lid including: bells phenomenon, assessment of entropion/ ectropion, perform the regurgitation test of lacrimal sac. massage technique in cong. dacryocystitis, and trichiatic cilia removal by epilation	S	SH	Y	DOAP session, Lecture	Skill assessment			
OP2.4	Describe the aetiology, clinical presentation. Discuss the complications and management of orbital cellulitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP2.5	Describe the clinical features on ocular examination and management of a patient with cavernous sinus thrombosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP2.6	Enumerate the causes and describe the differentiating features, and clinical features and management of proptosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP2.7	Classify the various types of orbital tumours. Differentiate the symptoms and signs of the presentation of various types of ocular tumours	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP2.8	List the investigations helpful in diagnosis of orbital tumors. Enumerate the indications for appropriate referral	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Conjunctiva Number of Competencies (09) Number of procedures that require certification: (NIL)									
OP3.1	Elicit document and present an appropriate history in a patient presenting with a “red eye” including congestion, discharge, pain	S	SH	Y	DOAP session	Skill Assessment			
OP3.2	Demonstrate document and present the correct method of examination of a “red eye” including vision assessment, corneal lustre, pupil abnormality, ciliary tenderness	S	SH	Y	DOAP session	Skill Assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OP3.3	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications. and management of various causes of conjunctivitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP3.4	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of trachoma.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP3.5	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of vernal catarrh	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP3.6	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of pterygium	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP3.7	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of symblepharon	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP3.8	Demonstrate correct technique of removal of foreign body from the eye in a simulated environment	S	SH	Y	DOAP session	Skill assessment			
OP3.9	Demonstrate the correct technique of instillation of eye drops in a simulated environment	S	SH	Y	DOAP session	Skill assessment			
Topic: Corneas Number of Competencies: (10) Number of procedures that require certification: (NIL)									
OP4.1	Enumerate, describe and discuss the types and causes of corneal ulceration	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
OP4.2	Enumerate and discuss the differential diagnosis of infective keratitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OP4.3	Enumerate the causes of corneal edema	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP4.4	Enumerate the causes and discuss the management of dry eye	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP4.5	Enumerate the causes of corneal blindness	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP4.6	Enumerate the indications and the types of keratoplasty	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP4.7	Enumerate the indications and describe the methods of tarsorrhaphy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP4.8	Demonstrate technique of removal of foreign body in the cornea in a simulated environment	S	SH	Y	DOAP session	Skill assessment			
OP4.9	Describe and discuss the importance and protocols involved in eye donation and eye banking	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP4.10	Counsel patients and family about eye donation in a simulated environment	A/C	SH	Y	DOAP session	Skill assessment			
Topic: Sclera Number of competencies: (02) Number of procedures that require certification : (NIL)									
OP5.1	Define, enumerate and describe the aetiology, associated systemic conditions, clinical features complications indications for referral and management of episcleritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OP5.2	Define, enumerate and describe the aetiology, associated systemic conditions, clinical features, complications, indications for referral and management of scleritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Iris and Anterior chamber Number of Competencies (10) Number of procedures that require certification: (NIL)									
OP6.1	Describe clinical signs of intraocular inflammation and enumerate the features that distinguish granulomatous from non-granulomatous inflammation. Identify acute iridocyclitis from chronic condition	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP6.2	Identify and distinguish acute iridocyclitis from chronic iridocyclitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP6.3	Enumerate systemic conditions that can present as iridocyclitis and describe their ocular manifestations	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
OP6.4	Describe and distinguish hyphema and hypopyon	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP6.5	Describe and discuss the angle of the anterior chamber and its clinical correlates	K	KH		Lecture, Small group discussion	Written/ Viva voce			
OP6.6	Identify and demonstrate the clinical features and distinguish and diagnose common clinical conditions affecting the anterior chamber	S	SH	Y	DOAP session, Bedside clinic	Skill assessment			
OP6.7	Enumerate and discuss the aetiology, the clinical distinguishing features of various glaucomas associated with shallow and deep anterior chamber. Choose appropriate investigations and treatment for patients with above conditions.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OP6.8	Enumerate and choose the appropriate investigation for patients with conditions affecting the Uvea	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP6.9	Choose the correct local and systemic therapy for conditions of the anterior chamber and enumerate their indications, adverse events and interactions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP6.10	Counsel patients with conditions of the iris and anterior chamber about their diagnosis, therapy and prognosis in an empathetic manner in a simulated environment	A/C	SH	Y	DOAP session	Skill assessment			
Topic: Lens Number of Competencies: (06) Number of procedures that require certification: (NIL)									
OP7.1	Describe the surgical anatomy and the metabolism of the lens	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Human Anatomy	
OP7.2	Describe and discuss the aetio-pathogenesis, stages of maturation and complications of cataract	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
OP7.3	Demonstrate the correct technique of ocular examination in a patient with a cataract	S	SH	Y	DOAP session	Skill assessment			
OP7.4	Enumerate the types of cataract surgery and describe the steps, intra-operative and post-operative complications of extracapsular cataract extraction surgery.	S	KH	Y	DOAP session, Lecture, Small group discussion	Written/ Viva voce			
OP7.5	To participate in the team for cataract surgery	S	SH	Y	DOAP session	Skill assessment/ Logbook documentation			
OP7.6	Administer informed consent and counsel patients for cataract surgery in a simulated environment	S	SH	Y	DOAP session	Skill Assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Retina & optic Nerve Number of Competencies (05) Number of procedures that require certification : (NIL)									
OP8.1	Discuss the aetiology, pathology, clinical features and management of vascular occlusions of the retina	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Pathology	
OP8.2	Enumerate the indications for laser therapy in the treatment of retinal diseases (including retinal detachment, retinal degenerations, diabetic retinopathy & hypertensive retinopathy)	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
OP8.3	Demonstrate the correct technique of a fundus examination and describe and distinguish the funduscopic features in a normal condition and in conditions causing an abnormal retinal exam	S	SH	Y	Lecture, Small group discussion	Skill Assessment			
OP8.4	Enumerate and discuss treatment modalities in management of diseases of the retina	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP8.5	Describe and discuss the correlative anatomy, aetiology, clinical manifestations, diagnostic tests, imaging and management of diseases of the optic nerve and visual pathway	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Miscellaneous Number of Competencies (05) Number of procedures that require certification: (01)									
OP9.1	Demonstrate the correct technique to examine extra ocular movements (Uniocular & Binocular)	S	P	Y	DOAP session	Skill Assessment	5		
OP9.2	Classify, enumerate the types, methods of diagnosis and indications for referral in a patient with heterotropia/ strabismus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ skill assessment			
OP9.3	Describe the role of refractive error correction in a patient with headache and enumerate the indications for referral	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OP9.4	Enumerate, describe and discuss the causes of avoidable blindness and the National Programs for Control of Blindness (including vision 2020)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Community Medicine
OP9.5	Describe the evaluation and enumerate the steps involved in the stabilisation, initial management and indication for referral in a patient with ocular injury	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication.

Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently,

Column F: DOAP session – Demonstrate, Observe, Assess, Perform.

Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation

Integration

Human Anatomy									
AN30.5	Explain effect of pituitary tumours on visual pathway	K	KH	N	Lecture	Written		Ophthalmology	
AN31.3	Describe anatomical basis of Horner's syndrome	K	KH	N	Lecture	Written		Ophthalmology	
AN31.5	Explain the anatomical basis of oculomotor, trochlear and abducent nerve palsies along with strabismus	K	KH	Y	Lecture	Written		Ophthalmology	
AN41.1	Describe & demonstrate parts and layers of eyeball	K/S	SH	Y	Practical, Lecture, Small group discussion	Written/ Viva voce		Ophthalmology	
AN41.2	Describe the anatomical aspects of cataract, glaucoma & central retinal artery occlusion	K	KH	N	Lecture	Written		Ophthalmology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN41.3	Describe the position, nerve supply and actions of intraocular muscles	K	KH	N	Lecture	Written		Ophthalmology	
Physiology									
PY10.17	Describe and discuss functional anatomy of eye, physiology of image formation, physiology of vision including colour vision, Refractive errors, colour blindness, Physiology of pupil and light reflex	K	KH	Y	Lecture, Small group discussion	Written/viva		Ophthalmology	
PY10.18	Describe and discuss the physiological basis of lesion in visual pathway	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Ophthalmology	
PY10.19	Describe and discuss auditory & visual evoke potentials	K	KH	Y	Lecture, Small group discussion	Written/ viva		Ophthalmology	
PY10.20	Demonstrate testing of visual acuity, colour and field of vision in volunteer/ simulated environment	S	P	Y	DOAP sessions	Skill assessment/ Viva voce	1	ENT, Ophthalmology	
Pathology									
PA36.1	Describe the etiology, genetics, pathogenesis, pathology, presentation, sequelae and complications of retinoblastoma	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Ophthalmology	
Pharmacology									
PH1.58	Describe drugs used in Ocular disorders	K	KH	Y	Lecture	Written/ Viva voce		Ophthalmology	
General Medicine									
IM24.15	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of vision and visual loss in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Ophthalmology

OTORHINOLARYNGOLOGY (ENT) (CODE: EN)

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OTORHINOLARYNGOLOGY (ENT)									
Topic: Anatomy and Physiology of ear, nose, throat, head & neck		Number of competencies:(02)			Number of procedures that require certification:(NIL)				
EN1.1	Describe the Anatomy & physiology of ear, nose, throat, head & neck	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment		Human Anatomy	
EN1.2	Describe the pathophysiology of common diseases in ENT	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment		Pathology	
Topic: Clinical Skills		Number of competencies: (15)			Number of procedures that require certification : (NIL)				
EN2.1	Elicit document and present an appropriate history in a patient presenting with an ENT complaint	K/S/A/C	SH	Y	Lecture, Small group discussion, Demonstration	Skill assessment			
EN2.2	Demonstrate the correct use of a headlamp in the examination of the ear, nose and throat	S	SH	Y	DOAP session	Skill assessment/ OSCE			
EN2.3	Demonstrate the correct technique of examination of the ear including Otoscopy	K/S/A	SH	Y	DOAP session, Bedside clinic	Skill assessment/ OSCE			
EN2.4	Demonstrate the correct technique of performance and interpret tuning fork tests	K/S/A	SH	Y	DOAP session, Bedside clinic	Skill assessment/ OSCE			
EN2.5	Demonstrate the correct technique of examination of the nose & paranasal sinuses including the use of nasal speculum	S	SH	Y	DOAP session, Bedside clinic	Skill assessment/ OSCE			
EN2.6	Demonstrate the correct technique of examining the throat including the use of a tongue depressor	S	SH	Y	DOAP session, Bedside clinic	Skill assessment/ OSCE			
EN2.7	Demonstrate the correct technique of examination of neck including elicitation of laryngeal crepitus	S	SH	Y	DOAP session, Bedside clinic	Skill assessment			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
EN2.8	Demonstrate the correct technique to perform and interpret pure tone audiogram & impedance audiogram	K/S	SH	Y	DOAP session, Bedside clinic	Skill assessment			
EN2.9	Choose correctly and interpret radiological, microbiological & histological investigations relevant to the ENT disorders	K/S	SH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment			
EN2.10	Identify and describe the use of common instruments used in ENT surgery	K	SH	Y	DOAP session, Bedside clinic	Skill assessment			
EN2.11	Describe and identify by clinical examination malignant & pre- malignant ENT diseases	K/S	SH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN2.12	Counsel and administer informed consent to patients and their families in a simulated environment	S/A/C	SH	Y	DOAP session, Bedside clinic	Skill assessment			
EN2.13	Identify, resuscitate and manage ENT emergencies in a simulated environment (including tracheostomy, anterior nasal packing, removal of foreign bodies in ear, nose, throat and upper respiratory tract)	K/S/A	SH	Y	DOAP session, Bedside clinic	Skill assessment			
EN2.14	Demonstrate the correct technique to instilling topical medications into the ear, nose and throat in a simulated environment	K/S	SH	Y	DOAP session, Bedside clinic	Skill assessment/ OSCE			
EN2.15	Describe the national programs for prevention of deafness, cancer, noise & environmental pollution	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
Topic: Diagnostic and Therapeutic procedures in ENT Number of competencies:(06) Number of procedures that require certification:(NIL)									
EN3.1	Observe and describe the indications for and steps involved in the performance of Otomicroscopic examination in a simulated environment	S	KH	N	Lecture, Small group discussion, Demonstration	Written/ Viva voce			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
EN3.2	Observe and describe the indications for and steps involved in the performance of diagnostic nasal Endoscopy	S	KH	N	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
EN3.3	Observe and describe the indications for and steps involved in the performance of Rigid/Flexible Laryngoscopy	K	KH	N	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
EN3.4	Observe and describe the indications for and steps involved in the removal of foreign bodies from ear, nose & throat	K	KH	N	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
EN3.5	Observe and describe the indications for and steps involved in the surgical procedures in ear, nose & throat	K	KH	N	Lecture, small group discussion, Demonstration	Written/ Viva voce			
EN3.6	Observe and describe the indications for and steps involved in the skills of emergency procedures in ear, nose & throat	K	KH	N	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
Topic: Management of diseases of ear, nose & throat Number of competencies: (53) Number of procedures that require certification : (NIL)									
EN4.1	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Otagia	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			
EN4.2	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of diseases of the external Ear	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			
EN4.3	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of ASOM	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
EN4.4	Demonstrate the correct technique to hold visualize and assess the mobility of the tympanic membrane and its mobility and interpret and diagrammatically represent the findings	K/S/A	SH	Y	Clinical, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.5	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of OME	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			
EN4.6	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Discharging ear	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			
EN4.7	Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of CSOM	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			
EN4.8	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of squamosal type of CSOM	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			
EN4.9	Demonstrate the correct technique for syringing wax from the ear in a simulated environment	S	SH	Y	DOAP session	Skill assessment			
EN4.10	Observe and describe the indications for and steps involved in myringotomy and myringoplasty	S	KH	Y	DOAP session	Written/ Viva voce			
EN4.11	Enumerate the indications describe the steps and observe a mastoidectomy	K/S	KH	Y	DOAP session	Written/ Viva voce			
EN4.12	Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Hearing loss	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
EN4.13	Describe the clinical features, investigations and principles of management of Otosclerosis	K	KH	Y	Lecture, Small group discussion; Demonstration	Written/ Viva voce/ Skill assessment			
EN4.14	Describe the clinical features, investigations and principles of management of Sudden Sensorineural Hearing Loss	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.15	Describe the clinical features, investigations and principles of management of Noise Induced Hearing Loss	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.16	Observe and describe the indications for and steps involved in the performance of pure tone audiometry	S	KH	Y	DOAP session	Written/ Viva			
EN4.17	Enumerate the indications and interpret the results of an audiogram	S	SH	Y	DOAP session	Skill assessment			
EN4.18	Describe the clinical features, investigations and principles of management of Facial Nerve palsy	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.19	Describe the clinical features, investigations and principles of management of Vertigo	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.20	Describe the clinical features, investigations and principles of management of Meniere's Disease	K	KH	N	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.21	Describe the clinical features, investigations and principles of management of Tinnitus	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.22	Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of squamosal type of Nasal Obstruction	K/S	SH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
EN4.23	Describe the clinical features, investigations and principles of management of DNS	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.24	Enumerate the indications observe and describe the steps in a septoplasty	S	KH	Y	DOAP session	Written/ Viva voce			
EN4.25	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of squamosal type of Nasal Polyps	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			
EN4.26	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of squamosal type of Adenoids	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			
EN4.27	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of squamosal type of Allergic Rhinitis	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			
EN4.28	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of squamosal type of Vasomotor Rhinitis	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			
EN4.29	Elicit, document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of squamosal type of Acute & Chronic Rhinitis	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			
EN4.30	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of squamosal type of Epistaxis	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
EN4.31	Describe the clinical features, investigations and principles of management of trauma to the face & neck	K/S	KH	N	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
EN4.32	Describe the clinical features, investigations and principles of management of nasopharyngeal Angiofibroma	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
EN4.33	Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of squamosal type of Acute & Chronic Sinusitis	K/S	SH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.34	Describe the clinical features, investigations and principles of management of Tumors of Maxilla	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
EN4.35	Describe the clinical features, investigations and principles of management of Tumors of Nasopharynx	K	KH	N	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.36	Describe the clinical features, investigations and principles of management of diseases of the Salivary glands	K	KH	N	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.37	Describe the clinical features, investigations and principles of management of Ludwig's angina	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.38	Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of type of dysphagia	K/S	SH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.39	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of squamosal type of Acute & Chronic Tonsillitis	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
EN4.40	Observe and describe the indications for and steps involved in a tonsillectomy / adenoidectomy	S	KH	Y	DOAP session	Written/ Viva voce			
EN4.41	Describe the clinical features, investigations and principles of management of Acute & chronic abscesses in relation to Pharynx	K/S	KH	Y	Lecture, Small group discussion Demonstration	Written/ Viva voce			
EN4.42	Elicit, document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of hoarseness of voice	K/S	SH	Y	Lecture, Small group discussion, DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			
EN4.43	Describe the clinical features, investigations and principles of management of Acute & Chronic Laryngitis	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
EN4.44	Describe the clinical features, investigations and principles of management of Benign lesions of the vocal cord	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce			
EN4.45	Describe the clinical features, investigations and principles of management of Vocal cord palsy	K	KH	N	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.46	Describe the clinical features, investigations and principles of management of Malignancy of the Larynx & Hypopharynx	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.47	Describe the clinical features, investigations and principles of management of Stridor	K	KH	Y	Lecture, Small group discussion Demonstration	Written/ Viva voce/ Skill assessment			
EN4.48	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Airway Emergencies	S	SH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
EN4.49	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of foreign bodies in the air & food passages	S	SH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.50	Observe and describe the indications for and steps involved in tracheostomy	S	KH	Y	DOAP session	Written/ Viva voce			
EN4.51	Observe and describe the care of the patient with a tracheostomy	S	KH	Y	DOAP session	Written/ Viva voce			
EN4.52	Describe the Clinical features, Investigations and principles of management of diseases of Oesophagus	K	ENT	N	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment			
EN4.53	Describe the clinical features, investigations and principles of management of HIV manifestations of the ENT	K	KH	N	Lecture, Small group discussion, Demonstration	Written/ Viva voce/ Skill assessment		General Medicine	
	Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation								

Integration

Human Anatomy									
AN36.1	Describe the (1) morphology, relations, blood supply and applied anatomy of palatine tonsil and (2) composition of soft palate	K	KH	Y	Lecture	Written		ENT	
AN36.2	Describe the components and functions of waldeyer's lymphatic ring	K	KH	Y	Lecture	Written		ENT	
AN36.3	Describe the boundaries and clinical significance of pyriform fossa	K	KH	N	Lecture	Written		ENT	
AN36.4	Describe the anatomical basis of tonsillitis, tonsillectomy, adenoids and peri-tonsillar abscess	K	KH	N	Lecture	Written		ENT	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN36.5	Describe the clinical significance of Killian's dehiscence	K	KH	N	Lecture	Written		ENT	
AN37.1	Describe & demonstrate features of nasal septum, lateral wall of nose, their blood supply and nerve supply	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		ENT	
AN37.2	Describe location and functional anatomy of paranasal sinuses	K	KH	Y	Lecture	Written		ENT	
AN37.3	Describe anatomical basis of sinusitis & maxillary sinus tumours	K	KH	N	Lecture	Written		ENT	
AN38.1	Describe the morphology, identify structure of the wall, nerve supply, blood supply and actions of intrinsic and extrinsic muscles of the larynx	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		ENT	
AN38.2	Describe the anatomical aspects of laryngitis	K	KH	N	Lecture	Written		ENT	
AN38.3	Describe anatomical basis of recurrent laryngeal nerve injury	K	KH	N	Lecture	Written		ENT	
AN39.2	Explain the anatomical basis of hypoglossal nerve palsy	K	KH	N	Lecture	Written		ENT	
AN40.1	Describe & identify the parts, blood supply and nerve supply of external ear	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		ENT	
AN40.2	Describe & demonstrate the boundaries, contents, relations and functional anatomy of middle ear and auditory tube	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		ENT	
AN40.3	Describe the features of internal ear	K	KH	N	Lecture	Written		ENT	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN40.4	Explain anatomical basis of otitis externa and otitis media	K	KH	N	Lecture	Written		ENT	
AN40.5	Explain anatomical basis of myringotomy	K	KH	N	Lecture	Written		ENT	
Physiology									
PY10.13	Describe and discuss perception of smell and taste sensation	K	KH	Y	Lecture, Small group discussion	Written /Viva voce		ENT	
PY10.15	Describe and discuss functional anatomy of ear and auditory pathways & physiology of hearing	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		ENT	
PY10.16	Describe and discuss pathophysiology of deafness. Describe hearing tests	K	KH	Y	Lecture, Small group discussion	Written /Viva voce		ENT	
PY10.20	Demonstrate (i) hearing (ii) testing for smell and (iii) taste sensation in volunteer/ simulated environment	S	P	Y	DOAP sessions	Skill assessment/ Viva voce	1 each x 3	ENT, Ophthalmology	
Community Medicine									
CM3.1	Describe the health hazards of air, water, noise, radiation and pollution.	K	KH	Y	Lecture, small group discussion	Written/ Viva voce		General Medicine, ENT	
Dentistry									
DE4.1	Discuss the prevalence of oral cancer and enumerate the common types of cancer that can affect tissues of the oral cavity	K	K	N	Lecture	Viva voce		Pathology	ENT
DE4.2	Discuss the role of etiological factors in the formation of precancerous /cancerous lesions	K	KH	Y	Lecture, Small group discussion	Viva voce		Pathology	ENT
DE4.3	Identify potential pre-cancerous /cancerous lesions	S	SH	N	Observation, Bed side clinics	Skill assessment		Pathology	ENT

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
DE4.4	Counsel patients to risks of oral cancer with respect to tobacco, smoking, alcohol and other causative factors	A/C	SH	Y	DOAP session	Document in Log book	2	Pathology	ENT
General Medicine									
IM24.17	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of hearing loss in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			ENT
Pediatrics									
PE14.2	Discuss the risk factors, clinical features, Diagnosis and management of Kerosene ingestion	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.1	Discuss the etio-pathogenesis, clinical features and management of Naso pharyngitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.2	Discuss the etio-pathogenesis of Pharyngo Tonsillitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.3	Discuss the clinical features and management of Pharyngo Tonsillitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.4	Discuss the etio-pathogenesis, clinical features and management of Acute Otitis Media (AOM)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.5	Discuss the etio-pathogenesis, clinical features and management of Epiglottitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.6	Discuss the etio-pathogenesis, clinical features and management of Acute laryngo- trachea-bronchitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.7	Discuss the etiology, clinical features and management of Stridor in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
PE28.8	Discuss the types, clinical presentation, and management of foreign body aspiration in infants and children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PE28.9	Elicit, document and present age appropriate history of a child with upper respiratory problem including Stridor	S	SH	Y	Bedside clinics, skill lab	Skill Assessment		ENT	
PE28.10	Perform otoscopic examination of the ear	S	SH	Y	DOAP session	Skill Assessment		ENT	
PE28.11	Perform throat examination using tongue depressor	S	SH	Y	DOAP session	Skill Assessment		ENT	
PE28.12	Perform examination of the nose	S	P	Y	DOAP session	Skill Assessment		ENT	
PE28.17	Interpret X-ray of the paranasal sinuses and mastoid; and /or use written report in case of management. Interpret CXR in foreign body aspiration and lower respiratory tract infection, understand the significance of thymic shadow in pediatric chest X-rays	S	P	Y	Bedside clinics, Small group discussion	Skills Assessment	3	ENT, Radiodiagnosis	
PE31.1	Describe the etio-pathogenesis, management and prevention of Allergic Rhinitis in Children	K	KH	Y	Lecture Small group discussion	Written/ Viva voce		ENT	
PE31.3	Describe the etio-pathogenesis, clinical features and management of Atopic dermatitis in children	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	
General Surgery									
SU20.1	Describe etiopathogenesis of oral cancer, symptoms and signs of pharyngeal cancer. Enumerate the appropriate investigations and discuss the principles of treatment.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		ENT	

OBSTETRICS & GYNECOLOGY (CODE: OG)

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OBSTETRICS & GYNAECOLOGY									
Topic: Demographic and Vital Statistics		Number of competencies: (03)			Number of procedures that require certification : (NIL)				
OG1.1	Define and discuss birth rate, maternal mortality and morbidity	K	KH	Y	Lecture, Small group discussion	Short notes		Community Medicine	
OG1.2	Define and discuss perinatal mortality and morbidity including perinatal and neonatal mortality and morbidity audit	K	KH	Y	Lecture, Small group discussion	Short notes		Community Medicine	Pediatrics
OG1.3	Define and discuss still birth and abortion	K	KH	Y	Lecture, Small group discussion	Short notes		Forensic Medicine & Toxicology	
Topic: Anatomy of the female reproductive tract (Basic anatomy and embryology)		Number of competencies: (01)			Number of procedures that require certification : (NIL)				
OG2.1	Describe and discuss the development and anatomy of the female reproductive tract, relationship to other pelvic organs, applied anatomy as related to Obstetrics and Gynaecology.	K	KH	Y	Lecture, Small group discussion	Theory/ Skill station		Human Anatomy	
Topic: Physiology of conception		Number of competencies: (01)			Number of procedures that require certification : (NIL)				
OG3.1	Describe the physiology of ovulation, menstruation, fertilization, implantation and gametogenesis.	K	K	Y	Lecture, seminars	Theory		Physiology	
Topic: Development of the fetus and the placenta		Number of competencies: (01)			Number of procedures that require certification : (NIL)				
OG4.1	Describe and discuss the basic embryology of fetus, factors influencing fetal growth and development, anatomy and physiology of placenta, and teratogenesis	K	K	Y	Lecture, Small group discussion	Theory		Human Anatomy	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Preconception counselling Number of competencies:(02) Number of procedures that require certification : (NIL)									
OG5.1	Describe, discuss and identify pre-existing medical disorders and discuss their management; discuss evidence-based intrapartum care	K/S	SH	Y	Lecture, Bedside clinics	Theory/ clinical assessment			
OG5.2	Determine maternal high risk factors and verify immunization status	K/S	SH	Y	Lecture, Bedside clinics	Theory/ clinical assessment			
Topic: Diagnosis of pregnancy Number of competencies:(01) Number of procedures that require certification : (NIL)									
OG6.1	Describe, discuss and demonstrate the clinical features of pregnancy, derive and discuss its differential diagnosis, elaborate the principles underlying and interpret pregnancy tests.	S	SH	Y	Lecture, Small group discussion, Bedside clinics	Theory/ Clinical assessment/ Viva voce			
Topic: Maternal Changes in pregnancy Number of competencies: (01) Number of procedures that require certification : (NIL)									
OG7.1	Describe and discuss the changes in the genital tract, cardiovascular system, respiratory, haematology, renal and gastrointestinal system in pregnancy	K	KH	Y	Lecture, seminars	Theory		Physiology	
Topic: Antenatal Care Number of competencies: (08) Number of procedures that require certification : (NIL)									
OG8.1	Enumerate, describe and discuss the objectives of antenatal care, assessment of period of gestation; screening for high-risk factors.	K	KH	Y	Small group discussion, Bedside clinics, Lecture	Written/ Viva voce/ Skill assessment		Community Medicine	
OG8.2	Elicit document and present an obstetric history including menstrual history, last menstrual period, previous obstetric history, comorbid conditions, past medical history and surgical history	K/S	SH	Y	Small group discussion, Bedside clinics, Lecture	Written/ Viva voce/ Skill assessment			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OG8.3	Describe, demonstrate, document and perform an obstetrical examination including a general and abdominal examination and clinical monitoring of maternal and fetal well-being;	K/S	SH	Y	Bed side clinic, DOAP session	Skill assessment			
OG8.4	Describe and demonstrate clinical monitoring of maternal and fetal well-being	K/S	SH	Y	Bedside clinic, DOAP session, Small group discussion	Skill assessment/ Written/ Viva voce			
OG8.5	Describe and demonstrate pelvic assessment in a model	K/S	SH	Y	DOAP session	Skill assessment			
OG8.6	Assess and counsel a patient in a simulated environment regarding appropriate nutrition in pregnancy	K/S	SH	Y	DOAP session, Bedside clinic	Skill assessment			
OG8.7	Enumerate the indications for and types of vaccination in pregnancy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OG8.8	Enumerate the indications and describe the investigations including the use of ultrasound in the initial assessment and monitoring in pregnancy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Complications in early pregnancy Number of competencies: (05) Number of procedures that require certification: (NIL)									
OG9.1	Classify, define and discusses the aetiology and management of abortions including threatened, incomplete, inevitable, missed and septic	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OG9.2	Describe the steps and observe/ assist in the performance of an MTP evacuation	S	SH	Y	DOAP session, Bedside clinic	Viva voce		Forensic Medicine	
OG9.3	Discuss the aetiology, clinical features, differential diagnosis of acute abdomen in early pregnancy (with a focus on ectopic pregnancy) and enumerate the principles of medical and surgical management	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OG9.4	Discuss the clinical features, laboratory investigations, ultrasonography, differential diagnosis, principles of management and follow up of gestational trophoblastic neoplasms	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Radiodiagnosis
OG9.5	Describe the etiopathology, impact on maternal and fetal health and principles of management of hyperemesis gravidarum	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Antepartum haemorrhage Number of competencies: (02) Number of competencies that require certification: (NIL)									
OG10.1	Define, classify and describe the aetiology, pathogenesis, clinical features, ultrasonography, differential diagnosis and management of antepartum haemorrhage in pregnancy	K	KH	Y	Lecture, Small group discussion, Bedside clinic				
OG10.2	Enumerate the indications and describe the appropriate use of blood and blood products, their complications and management.	K	KH	Y	Lecture, Small group discussion			Pathology	
Topic: Multiple pregnancies Number of competencies: (01) Number of procedures that require certification : (NIL)									
OG11.1	Describe the etiopathology, clinical features; diagnosis and investigations, complications, principles of management of multiple pregnancies	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Theory/ OSCE/ Clinical assessment/ Viva voce			
Topic: Medical Disorders in pregnancy Number of competencies: (08) Number of procedures that require certification : (NIL)									
OG12.1	Define, classify and describe the etiology and pathophysiology, early detection, investigations; principles of management of hypertensive disorders of pregnancy and eclampsia, complications of eclampsia.	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OG12.2	Define, classify and describe the etiology, pathophysiology, diagnosis, investigations, adverse effects on the mother and foetus and the management during pregnancy and labor, and complications of anemia in pregnancy	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine
OG12.3	Define, classify and describe the etiology, pathophysiology, diagnosis, investigations, criteria, adverse effects on the mother and foetus and the management during pregnancy and labor, and complications of diabetes in pregnancy	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine
OG12.4	Define, classify and describe the etiology, pathophysiology, diagnosis, investigations, criteria, adverse effects on the mother and foetus and the management during pregnancy and labor, and complications of heart diseases in pregnancy	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine
OG12.5	Describe the clinical features, detection, effect of pregnancy on the disease and impact of the disease on pregnancy complications and management of urinary tract infections in pregnancy	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine
OG12.6	Describe the clinical features, detection, effect of pregnancy on the disease and impact of the disease on pregnancy complications and management of liver disease in pregnancy	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine
OG12.7	Describe and discuss screening, risk factors, management of mother and newborn with HIV	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Medicine
OG12.8	Describe the mechanism, prophylaxis, fetal complications, diagnosis and management of isoimmunization in pregnancy	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Labour Number of competencies: (05) Number of procedures that require certification : (01)									
OG13.1	Enumerate and discuss the physiology of normal labor, mechanism of labor in occipito-anterior presentation; monitoring of labor including partogram; conduct of labor, pain relief; principles of induction and acceleration of labor; management of third stage of labor.	K/S	KH	Y	Lecture, Small group discussion (with models/ videos/ AV aids, etc.)	Theory/Clinical assessment/ Viva voce			
OG13.2	Define, describe the causes, pathophysiology, diagnosis, investigations and management of preterm labor, PROM and postdated pregnancy	K/S	KH	Y	Lecture, Small group discussion, Bedside clinics	Theory/ OSCE/ Clinical assessment/ Viva voce			
OG13.3	Observe/ assist in the performance of an artificial rupture of membranes	S	SH	N	DOAP session, Bedside clinic	Skill assessment			
OG13.4	Demonstrate the stages of normal labor in a simulated environment / mannequin and counsel on methods of safe abortion.	S	SH	Y	DOAP session	Skill assessment			
OG13.5	Observe and assist the conduct of a normal vaginal delivery	S	P	Y	DOAP session	Log book	10		
Topic: Abnormal Lie and Presentation; Maternal Pelvis Number of competencies: (04) Number of procedures that need certification : (NIL)									
OG14.1	Enumerate and discuss the diameters of maternal pelvis and types	K	KH	Y	Lecture, Small group discussion DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment		Human Anatomy	
OG14.2	Discuss the mechanism of normal labor, Define and describe obstructed labor, its clinical features; prevention; and management	K	KH	Y	Lecture, Small group discussion DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OG14.3	Describe and discuss rupture uterus, causes, diagnosis and management.	K	KH	Y	Lecture, Small group discussion DOAP session, Bedside clinic	Written/ Viva voce/ Skill assessment			
OG14.4	Describe and discuss the classification; diagnosis; management of abnormal labor	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ skill assessment			
Topic: Operative obstetrics Number of competencies: (02) Number of procedures that require certification : (NIL)									
OG15.1	Enumerate and describe the indications and steps of common obstetric procedures, technique and complications: Episiotomy, vacuum extraction; low forceps; Caesarean section, assisted breech delivery; external cephalic version; cervical cerclage	S	KH	Y	Lecture, Small group discussion, seminars	Written/ skill assessment			
OG15.2	Observe and assist in the performance of an episiotomy and demonstrate the correct suturing technique of an episiotomy in a simulated environment. Observe/Assist in operative obstetrics cases – including - CS, Forceps, vacuum extraction, and breech delivery	S	SH	Y	DOAP session, Bedside clinic	Skill assessment			
Topic: Complications of the third stage Number of competencies: (03) Number of procedures that require certification : (NIL)									
OG16.1	Enumerate and discuss causes, prevention, diagnosis, management, appropriate use of blood and blood products in postpartum haemorrhage	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ skill assessment			
OG16.2	Describe and discuss uterine inversion – causes, prevention, diagnosis and management.	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OG16.3	Describe and discuss causes, clinical features, diagnosis, investigations; monitoring of fetal well-being, including ultrasound and fetal Doppler; principles of management; prevention and counselling in intrauterine growth retardation	K/S	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ skill assessment/ Viva voce			
Topic: Lactation Number of competencies: (03) Number of procedures that require certification : (NIL)									
OG17.1	Describe and discuss the physiology of lactation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OG17.2	Counsel in a simulated environment, care of the breast, importance and the technique of breast feeding	S/A/C	SH	Y	DOAP session	Skill assessment			
OG17.3	Describe and discuss the clinical features, diagnosis and management of mastitis and breast abscess	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Care of the new born Number of competencies: (04) Number of procedures that require certification : (NIL)									
OG18.1	Describe and discuss the assessment of maturity of the newborn, diagnosis of birth asphyxia, principles of resuscitation, common problems.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics
OG18.2	Demonstrate the steps of neonatal resuscitation in a simulated environment	S	SH	Y	DOAP session	Skill assessment			Pediatrics
OG18.3	Describe and discuss the diagnosis of birth asphyxia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics
OG18.4	Describe the principles of resuscitation of the newborn and enumerate the common problems encountered	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Pediatrics

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Normal and abnormal puerperium. Number of competencies: (04) Number of procedures that require certification : (NIL)									
OG19.1	Describe and discuss the physiology of puerperium, its complications, diagnosis and management; counselling for contraception, puerperal sterilization	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce			
OG19.2	Counsel in a simulated environment, contraception and puerperal sterilisation	S/A/C	SH	Y	DOAP session	Skill assessment		Community Medicine	
OG19.3	Observe/ assist in the performance of tubal ligation	S	KH	Y	DOAP session, intraoperative	Skill assessment			
OG19.4	Enumerate the indications for, describe the steps in and insert and remove an intrauterine device in a simulated environment	S	SH	Y	DOAP session	Skill assessment			
Topic: Medical termination of pregnancy Number of competencies: (03) Number of procedures that require certification : (NIL)									
OG20.1	Enumerate the indications and describe and discuss the legal aspects, indications, methods for first and second trimester MTP; complications and management of complications of Medical Termination of Pregnancy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic Medicine	
OG20.2	In a simulated environment administer informed consent to a person wishing to undergo Medical Termination of Pregnancy	S/A/C	SH	Y	DOAP session	Skill assessment		Forensic Medicine	
OG20.3	Discuss Pre-conception and Pre Natal Diagnostic Techniques (PC& PNDT) Act 1994 & its amendments	K	K/KH	Y	Lecture, Small group discussion	Written/Viva voce		Forensic Medicine	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Contraception Number of competencies: (02) Number of procedures that require certification : (NIL)									
OG21.1	Describe and discuss the temporary and permanent methods of contraception, indications, technique and complications; selection of patients, side effects and failure rate including Ocs, male contraception, emergency contraception and IUCD	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment		Community medicine	
OG21.2	Describe & discuss PPIUCD programme	K	K/KH	Y	Lecture, Small group discussion	Written/Viva voce			
Topic: Vaginal discharge Number of competencies: (02) Number of procedures that require certification : (NIL)									
OG22.1	Describe the clinical characteristics of physiological vaginal discharge.	K	KH	Y	Lecture	Theory			
OG22.2	Describe and discuss the etiology (with special emphasis on Candida, T. vaginalis, bacterial vaginosis), characteristics, clinical diagnosis, investigations, genital hygiene, management of common causes and the syndromic management	K	KH	Y	Lecture, Bedside clinics	Written/ Viva voce/ Skill assessment			
Topic: Normal and abnormal puberty Number of competencies: (03) Number of procedures that require certification : (NIL)									
OG23.1	Describe and discuss the physiology of puberty, features of abnormal puberty, common problems and their management	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce			
OG23.2	Enumerate the causes of delayed puberty. Describe the investigation and management of common causes	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OG23.3	Enumerate the causes of precocious puberty	K	K	N	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Abnormal uterine bleeding Number of competencies: (01) Number of procedures that require certification: (NIL)									
OG24.1	Define, classify and discuss abnormal uterine bleeding, its aetiology, clinical features, investigations, diagnosis and management	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Amenorrhea Number of competencies: (01) Number of procedures that require certification : (NIL)									
OG25.1	Describe and discuss the causes of primary and secondary amenorrhea, its investigation and the principles of management.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Genital injuries and fistulae Number of competencies: (02) Number of procedures that require certification : (NIL)									
OG26.1	Describe and discuss the etiopathogenesis, clinical features; investigation and implications on health and fertility and management of endometriosis and adenomyosis	K/S	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OG26.2	Describe the causes, prevention, clinical features, principles of management of genital injuries and fistulae	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			General Surgery
Topic: Genital infections Number of competencies: (04) Number of procedures that require certification : (NIL)									
OG27.1	Describe and discuss the etiology, pathology, clinical features, differential diagnosis, investigations, management and long term implications of sexually transmitted infections	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OG27.2	Describe and discuss the etiology, pathology, clinical features, differential diagnosis, investigations, management and long term implications of genital tuberculosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OG27.3	Describe and discuss the etiology, pathology, clinical features, differential diagnosis, investigations, management and long term implications of HIV	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OG27.4	Describe and discuss the etiology, pathology, clinical features, differential diagnosis, investigations, management and long term implications of Pelvic Inflammatory Disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Infertility Number of competencies:(04) Number of procedures that require certification : (NIL)									
OG28.1	Describe and discuss the common causes, pathogenesis, clinical features, differential diagnosis; investigations; principles of management of infertility – methods of tubal patency, ovulation induction, assisted reproductive techniques	K	KH	Y	Lecture, seminars, Bedside clinics	Written/ Viva voce			
OG28.2	Enumerate the assessment and restoration of tubal latency	K	K	N	Lecture, seminars, Bedside clinics	Written/ Viva voce			
OG28.3	Describe the principles of ovulation induction	K	KH	Y	Lecture, seminars, Bedside clinics	Written/ Viva voce			
OG28.4	Enumerate the various Assisted Reproduction Techniques	K	K	N	Lecture, seminars, Bedside clinics	Written/ Viva voce			
Topic: Uterine fibroids Number of competencies: (01) Number of procedures that require certification : (NIL)									
OG29.1	Describe and discuss the etiology; pathology; clinical features; differential diagnosis; investigations; principles of management, complications of fibroid uterus	K/A/C	KH	Y	Lecture, Bedside clinics	Theory/ OSCE/ Clinical Assessment/ Viva voce			
Topic: PCOS and hirsutism Number of competencies: (02) Number of procedures that require certification : (NIL)									
OG30.1	Describe and discuss the etiopathogenesis; clinical features; differential diagnosis; investigations; management, complications of PCOS	K/A/C	KH	Y	Lecture	Theory/ OSCE/ Clinical Assessment/ Viva voce			
OG30.2	Enumerate the causes and describe the investigations and management of hyperandrogenism	K	KH	N		Theory/ OSCE/ Clinical Assessment/ Viva voce			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Uterine prolapse Number of competencies: (01) Number of procedures that require certification :(NIL)									
OG31.1	Describe and discuss the etiology, classification, clinical features, diagnosis, investigations, principles of management and preventive aspects of prolapse of uterus	K/S	KH	Y	Lecture, small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			
Topic: Menopause Number of competencies: (02) Number of procedures that require certification : (NIL)									
OG32.1	Describe and discuss the physiology of menopause, symptoms, prevention, management and the role of hormone replacement therapy.	K	KH	Y	Lecture, small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			
OG32.2	Enumerate the causes of postmenopausal bleeding and describe its management	K	KH	Y	Lecture, small group discussion Bedside clinics	Written/ Viva voce			
Topic: Benign, Pre-malignant (CIN) and Malignant Lesions of the Cervix Number of competencies: (04) Number of procedures that require certification : (NIL)									
OG33.1	Classify, describe and discuss the etiology, pathology, clinical features, differential diagnosis, investigations and staging of cervical cancer	K/S	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			
OG33.2	Describe the principles of management including surgery and radiotherapy of Benign, Pre-malignant (CIN) and Malignant Lesions of the Cervix	K	KH	Y	Lecture, Small group discussion, Bedside clinics	Written/ Viva voce/ Skill assessment			General Surgery
OG33.3	Describe and demonstrate the screening for cervical cancer in a simulated environment	K/S	SH	Y	DOAP session	Skill assessment		Community Medicine	
OG33.4	Enumerate the methods to prevent cancer of cervix including visual inspection with acetic acid (VIA), visual inspection of cervix with Lugol's iodine (VILI), pap smear and colposcopy	K	K	Y	Lecture, Small group discussion, Bedside clinics	Viva voce/ Written			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Benign and malignant diseases of the uterus and the ovaries Number of competencies: (04) Number of procedures that require certification : (NIL)									
OG34.1	Describe and discuss aetiology, pathology, staging clinical features, differential diagnosis, investigations, staging laparotomy and principles of management of endometrial cancer	K	KH	Y	Lecture, Bedside clinics	Viva voce/ Written/ skill assessment			
OG34.2	Describe and discuss the etiology, pathology, classification, staging of ovarian cancer, clinical features, differential diagnosis, investigations, principal of management including staging laparotomy	K/S	KH	Y	Lecture	Theory/ OSCE/ clinical assessment/ Viva voce			
OG34.3	Describe and discuss the etiology, pathology, classification, staging, clinical features, differential diagnosis, investigations and management of gestational trophoblastic disease	K/S	KH	Y	Lecture	Theory/ OSCE/ clinical assessment/			
OG34.4	Operative Gynaecology : Understand and describe the technique and complications: Dilatation & Curettage (D&C); EA-ECC; cervical biopsy; abdominal hysterectomy; myomectomy; surgery for ovarian tumours; staging laparotomy; vaginal hysterectomy including pelvic floor repair; Fothergill's operation, Laparoscopy; hysteroscopy; management of postoperative complications	K/S	SH	Y	Videos, on manikins, observe procedures and surgeries in OR	Viva voce			
Topic: Obstetrics & Gynecological skills - I Number of competencies: (17) Number of procedures that require certification : (NIL)									
OG35.1	Obtain a logical sequence of history, and perform a humane and thorough clinical examination, excluding internal examinations (per-rectal and per-vaginal)	K/S	SH	Y	Bedside clinics	Clinical assessment/ Viva voce			
OG35.2	Arrive at a logical provisional diagnosis after examination.	K/S	SH	Y	Bedside clinics	Clinical assessment/ Viva voce			
OG35.3	Recognize situations, which call for urgent or early treatment at secondary and tertiary centres and make a prompt referral of such patients after giving first aid or emergency treatment.	K/S	SH	Y	Bedside clinics	Clinical assessment/ Viva voce			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OG35.4	Demonstrate interpersonal and communication skills befitting a physician in order to discuss illness and its outcome with patient and family	A/C	SH	Y	Bedside clinics	Clinical assessment/ Viva voce			
OG35.5	Determine gestational age, EDD and obstetric formula	K/S	SH	Y	Bedside clinics	Clinical assessment/ Viva voce			
OG35.6	Demonstrate ethical behavior in all aspects of medical practice.	A/C	SH	Y	Bedside clinics	Clinical assessment/ Viva voce			
OG35.7	Obtain informed consent for any examination / procedure	S	SH	Y	Bedside clinics	Clinical assessment/ Viva voce			
OG35.8	Write a complete case record with all necessary details	S	SH	Y	Bedside clinics	Clinical assessment/ Viva voce			
OG35.9	Write a proper discharge summary with all relevant information	S	SH	Y	Bedside clinics	Clinical assessment			
OG35.10	Write a proper referral note to secondary or tertiary centres or to other physicians with all necessary details.	S	SH	Y	Bedside clinics	Clinical assessment/ Viva voce			
OG35.11	Demonstrate the correct use of appropriate universal precautions for self-protection against HIV and hepatitis and counsel patients	S	SH	Y	DOAP session	Skill assessment			
OG35.12	Obtain a PAP smear in a stimulated environment	S	SH	Y	DOAP session	Skill assessment			
OG35.13	Demonstrate the correct technique to perform artificial rupture of membranes in a simulated / supervised environment	S	SH	Y	DOAP session	Skill assessment			
OG35.14	Demonstrate the correct technique to perform and suture episiotomies in a simulated/ supervised environment	S	SH	Y	DOAP session	Skill assessment			
OG35.15	Demonstrate the correct technique to insert and remove an IUD in a simulated/ supervised environment	S	SH	Y	DOAP session	Skill assessment			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OG35.16	Diagnose and provide emergency management of antepartum and postpartum hemorrhage in a simulated / guided environment	K/S	SH	Y	DOAP session	Skill assessment			
OG35.17	Demonstrate the correct technique of urinary catheterisation in a simulated/ supervised environment	S	SH	Y	DOAP session	Skill assessment			
Topic: Obstetrics & Gynecological skills - II Number of competencies: (03) Number of procedures that require certification: (NIL)									
OG36.1	Plan and institute a line of treatment, which is need based, cost effective and appropriate for common conditions taking into consideration (a) Patient (b) Disease (c) Socio-economic status (d) Institution/ Governmental guidelines.	K/S	SH	Y	Bedside clinics, Small group discussion	Clinical assessment/ Viva voce			
OG36.2	Organise antenatal, postnatal, well-baby and family welfare clinics	K/S	KH	Y	Bedside clinics	Clinical assessment/ Viva voce			
OG36.3	Demonstrate the correct technique of punch biopsy of uterus in a simulated/ supervised environment	S	SH	Y	Bedside clinics	Clinical assessment/ Viva voce			
Topic: Obstetrics & Gynecological skills - III Number of competencies: (07) Number of procedures that require certification : (NIL)									
OG37.1	Observe and assist in the performance of a Caesarean section	K/S/A/C	SH	Y	Bedside clinics, Small group discussion	Log book			
OG37.2	Observe and assist in the performance of Laparotomy	K/S/A/C	SH	Y	Bedside clinics, Small group discussion	Clinical assessment/ Viva voce			
OG37.3	Observe and assist in the performance of Hysterectomy – abdominal/vaginal	K/S/A/C	SH	Y	Bedside clinics, Small group discussion	Clinical assessment/ Viva voce			

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OG37.4	Observe and assist in the performance of Dilatation & Curettage (D&C)	K/S/A/C	SH	Y	Bedside clinics, Small group discussion	Clinical assessment/ Viva voce			
OG37.5	Observe and assist in the performance of Endometrial aspiration - endocervical curettage (EA-ECC)	K/S/A/C	SH	Y	Bedside clinics, Small group discussion	Viva voce			
OG37.6	Observe and assist in the performance of outlet forceps application of vacuum and breech delivery	K/S/A/C	SH	Y	Bedside clinics, Small group discussion	Log book			
OG37.7	Observe and assist in the performance of MTP in the first trimester and evacuation in incomplete abortion	K/S/A/C	SH	Y	Bedside clinics, Small group discussion	Clinical assessment/ Viva voce			
Topic: Should observe Number of competencies: (04) Number of procedures that require certification : (NIL)									
OG38.1	Laparoscopy	K/S/A/C	KH	Y	Bedside clinic, Small group discussion	Clinical assessment/ Viva voce			
OG38.2	Hysteroscopy	K/S/A/C	KH	Y	Bedside clinics, Small group discussion	Clinical assessment/ Viva voce			
OG38.3	Lap sterilization	K/S/A/C	KH	Y	Bedside clinics, Small group discussion	Clinical assessment/ Viva voce			
OG38.4	Assess the need for and issue proper medical certificates to patients for various purposes	K/S/A/C	KH	Y	Bedside clinics, Small group discussion	Clinical assessment/ Viva voce			
Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation									

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Integration									
Human Anatomy									
AN48.8	Mention the structures palpable during Vaginal & Rectal examination	K	KH	N	Lecture	Written		Obstetrics & Gynaecology, General Surgery	
AN49.1	Describe & demonstrate the Superficial & Deep perineal pouch (boundaries and contents)	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ skill assessment		Obstetrics & Gynaecology	
AN49.2	Describe & identify Perineal body	K/S	SH	Y	Lecture, Small group discussion, DOAP session	Viva voce/ skill assessment		Obstetrics & Gynaecology	
AN49.5	Explain the anatomical basis of Perineal tear, Episiotomy, Perianal abscess and Anal fissure	K	KH	N	Lecture	Written		Obstetrics & Gynaecology	
AN52.8	Describe the development of male & female reproductive system	K	KH	Y	Lecture	Written/ Viva voce		Obstetrics & Gynaecology	
AN53.1	Identify & hold the bone in the anatomical position, Describe the salient features, articulations & demonstrate the attachments of muscle groups	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment		General Surgery, Obstetrics & Gynaecology	
AN53.2	Demonstrate anatomical position of bony pelvis & show boundaries of pelvic inlet, pelvic cavity, pelvic outlet	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment		Obstetrics & Gynaecology	
AN53.3	Define true pelvis and false pelvis and demonstrate sex determination in male & female bony pelvis	K/S	SH	Y	Lecture, DOAP session	Viva voce/ skill assessment		Obstetrics & Gynaecology	
AN64.3	Describe various types of open neural tube defects with its embryological basis	K	KH	N	Lecture	Written/ Viva voce		Obstetrics & Gynaecology, Pediatrics	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN75.5	Describe the principles of genetic counselling	K	KH	Y	Lecture	Written		Pediatrics, Obstetrics & Gynaecology	
AN77.1	Describe the uterine changes occurring during the menstrual cycle	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN77.2	Describe the synchrony between the ovarian and menstrual cycles	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN77.3	Describe spermatogenesis and oogenesis along with diagrams	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN77.4	Describe stages and consequences of fertilisation	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN77.5	Enumerate and describe the anatomical principles underlying contraception	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN77.6	Describe teratogenic influences; fertility and sterility, surrogate motherhood, social significance of “sex-ratio”.	K	KH	N	Lecture	Written		Obstetrics & Gynaecology	
AN78.3	Describe the process of implantation & common abnormal sites of implantation	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN78.5	Describe in brief abortion: decidual reaction, pregnancy test	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN79.4	Describe the development of somites and intra-embryonic coelom	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN79.5	Explain embryological basis of congenital malformations, nucleus pulposus, sacrococcygeal teratomas, neural tube defects	K	KH	N	Lecture	Written		Obstetrics & Gynaecology	
AN79.6	Describe the diagnosis of pregnancy in first trimester and role of teratogens, alpha-fetoprotein	K	KH	N	Lecture	Written		Obstetrics & Gynaecology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN80.3	Describe formation of placenta, its physiological functions, foetomaternal circulation & placental barrier	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN80.4	Describe embryological basis of twinning in monozygotic & dizygotic twins	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN80.5	Describe role of placental hormones in uterine growth & parturition	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN80.6	Explain embryological basis of estimation of fetal age.	K	KH	N	Lecture	Written		Obstetrics & Gynaecology	
AN80.7	Describe various types of umbilical cord attachments	K	KH	N	Lecture	Written		Obstetrics & Gynaecology	
AN81.1	Describe various methods of prenatal diagnosis	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN81.2	Describe indications, process and disadvantages of amniocentesis	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
AN81.3	Describe indications, process and disadvantages of chorion villus biopsy	K	KH	Y	Lecture	Written		Obstetrics & Gynaecology	
Physiology									
PY9.6	Enumerate the contraceptive methods for male and female. Discuss their advantages & disadvantages	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, Community Medicine	
PY9.8	Describe and discuss the physiology of pregnancy, parturition & lactation and outline the psychology and psychiatry-disorders associated with it.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PY9.10	Discuss the physiological basis of various pregnancy tests	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PY9.11	Discuss the hormonal changes and their effects during perimenopause and menopause	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PY9.12	Discuss the common causes of infertility in a couple and role of IVF in managing a case of infertility.	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
Biochemistry									
BI10.1	Describe cancer initiation, promotion, oncogenes & oncogene activation.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, General Surgery, Pathology	
BI10.2	Describe various biochemical tumor markers and the biochemical basis of cancer therapy.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, General Surgery, Pathology	
BI10.3	Describe the cellular and humoral components of the immune system & describe the types and structure of antibody	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, General Surgery, Pathology	
Pathology									
PA22.2	Enumerate the indications describe the principles enumerate and demonstrate the steps of compatibility testing	S	SH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.1	Describe the epidemiology, pathogenesis, etiology, pathology, screening, diagnosis and progression of carcinoma of the cervix	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PA30.2	Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the endometrium	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.3	Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the leiomyomas and leiomyosarcomas	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.4	Classify and describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of ovarian tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.5	Describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of gestational trophoblastic neoplasms	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.6	Describe the etiology and morphologic features of cervicitis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.7	Describe the etiology, hormonal dependence, features and morphology of endometriosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.8	Describe the etiology and morphologic features of adenomyosis	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
PA30.9	Describe the etiology, hormonal dependence and morphology of endometrial hyperplasia	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
Pharmacology									
PH1.39	Describe mechanism of action, types, doses, side effects, indications and contraindications of the drugs used for contraception	K	KH	Y	Lecture	Written/ Viva voce		Obstetrics & Gynaecology	
PH1.40	Describe mechanism of action, types, doses, side effects, indications and contraindications of 1. Drugs used in the treatment of infertility, and 2. Drugs used in erectile dysfunction	K	KH	Y	Lecture	Written/ Viva voce		Obstetrics & Gynaecology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PH1.41	Describe the mechanisms of action, types, doses, side effects, indications and contraindications of uterine relaxants and stimulants	K	KH	Y	Lecture	Written/ Viva voce		Obstetrics & Gynaecology	
Community Medicine									
CM9.2	Define, calculate and interpret demographic indices including birth rate, death rate, fertility rates	S	SH	Y	Lecture, Small group discussion, DOAP sessions	Skill assessment		Obstetrics & Gynaecology, Pediatrics	
CM9.5	Describe the methods of population control	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		Obstetrics & Gynaecology	
CM10.1	Describe the current status of Reproductive, maternal, newborn and Child Health	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		Obstetrics & Gynaecology, Pediatrics	
CM10.2	Enumerate and describe the methods of screening high risk groups and common health problems	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		Obstetrics & Gynaecology, Pediatrics	
CM10.3	Describe local customs and practices during pregnancy, childbirth, lactation and child feeding practices	K	KH	Y	Small group discussion, Lecture	Written/ Viva voce		Obstetrics & Gynaecology, Pediatrics	
CM10.4	Describe the reproductive, maternal, newborn & child health (RMCH); child survival and safe motherhood interventions	K	KH	Y	Small group discussion, Lecture	Written / Viva voce		Obstetrics & Gynaecology, Pediatrics	
Forensic Medicine & Toxicology									
FM3.13	Describe different types of sexual offences. Describe various sections of IPC regarding rape including definition of rape (Section 375 IPC), Punishment for Rape (Section 376 IPC) and recent amendments notified till date.	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM3.14	SEXUAL OFFENCES Describe and discuss the examination of the victim of an alleged case of rape, and the preparation of report, framing the opinion and preservation and despatch of trace evidences in such cases.	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, DOAP session	Written/ Viva voce/ OSCE		Obstetrics & Gynaecology, Psychiatry	
FM3.15	SEXUAL OFFENCES Describe and discuss examination of accused and victim of sodomy, preparation of report, framing of opinion, preservation and despatch of trace evidences in such cases	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic, DOAP session	Written/ Viva voce/ OSCE		Obstetrics & Gynaecology, Psychiatry	
FM3.16	SEXUAL OFFENCES Describe and discuss adultery and unnatural sexual offences - sodomy, incest, lesbianism, buccal coitus, bestiality, indecent assault and preparation of report, framing the opinion and preservation and despatch of trace evidences in such cases.	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
FM3.17	Describe and discuss the sexual perversions fetishism, transvestism, voyeurism, sadism, necrophagia, masochism, exhibitionism, frotteurism, Necrophilia.	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, Psychiatry	
FM3.18	Describe anatomy of male and female genitalia, hymen and its types. Discuss the medico-legal importance of hymen. Define virginity, defloration, legitimacy and its medicolegal importance.	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
FM3.19	Discuss the medicolegal aspects of pregnancy and delivery, signs of pregnancy, precipitate labour superfoetation, superfecundation and signs of recent and remote delivery in living and dead	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
FM3.20	Discuss disputed paternity and maternity	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
FM3.21	Discuss Pre-conception and Pre Natal Diagnostic Techniques (PCPNDT)- Prohibition of Sex Selection Act 2003 and Domestic Violence Act 2005	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, AETCOM	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM3.22	Define and discuss impotence, sterility, frigidity, sexual dysfunction, premature ejaculation. Discuss the causes of impotence and sterility in male and female	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology, General Medicine	
FM3.23	Discuss Sterilization of male and female, artificial insemination, Test Tube Baby, surrogate mother, hormonal replacement therapy with respect to appropriate national and state laws	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
FM3.24	Discuss the relative importance of surgical methods of contraception (vasectomy and tubectomy) as methods of contraception in the national family Planning Programme	K	K/KH	N	Lecture, Small group discussion	Written		Obstetrics & Gynaecology	
FM3.25	Discuss the major results of the National Family Health Survey	K	K/KH	N	Lecture	Written		Obstetrics & Gynaecology	
FM3.26	Discuss the National Guidelines for accreditation, supervision & regulation of ART Clinics in India	K	K/KH	Y	Lecture, Small group discussion	Written		Obstetrics & Gynaecology	
FM3.27	Define, classify and discuss abortion, methods of procuring MTP and criminal abortion and complication of abortion: MTP Act 1971	K	K/KH	Y	Lecture, Small group discussion	Written/Viva voce		Obstetrics & Gynaecology, AETCOM	
FM3.28	Describe evidences of abortion - living and dead, duties of doctor in cases of abortion, investigations of death due to criminal abortion	K	K/KH	Y	Lecture, Small group discussion	Written/Viva voce		Obstetrics & Gynaecology, AETCOM	
Dermatology & Venereology									
DR10.11	Describe the etiology, diagnostic and clinical features and management of vaginal discharge	K	KH	Y	Lecture, Small group discussion	Written / Viva voce		Obstetrics & Gynaecology	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
General Medicine									
IM26.43	Identify, discuss and defend medicolegal, sociocultural, economic and ethical issues as they pertain to in vitro fertilisation donor insemination and surrogate motherhood	K	KH	N	Small group discussion	Written/ Viva voce		Obstetrics & Gynaecology	
Radiodiagnosis									
RD1.13	Describe the components of the PC & PNDT Act and its medicolegal implications	K	KH	Y	Lecture, Small group discussion			Obstetrics & Gynaecology, Forensic Medicine	
Pediatrics									
PE7.1	Awareness on the cultural beliefs and practices of breast feeding	K	K	N	Lecture, Small group discussion	Viva voce			Obstetrics & Gynaecology
PE7.7	Perform breast examination and identify common problems during lactation such as retracted nipples, cracked nipples, breast engorgement, breast abscess	S	SH	Y	Bed side clinics Skill Lab	Skill Assessment			Obstetrics & Gynaecology
PE7.8	Educate mothers on ante natal breast care and prepare mothers for lactation	A/C	SH	Y	DOAP session	Document in Log Book			Obstetrics & Gynaecology, AETCOM
PE7.9	Educate and counsel mothers for best practices in breast feeding	A/C	SH	Y	DOAP session	Document in Log Book			Obstetrics & Gynaecology, AETCOM
PE18.1	List and explain the components, plans , outcomes of Reproductive Child Health (RCH) program and appraise the monitoring and evaluation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	Obstetrics & Gynaecology
PE18.2	Explain preventive interventions for Child survival and safe motherhood	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Community Medicine	Obstetrics & Gynaecology

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PE18.3	Conduct Antenatal examination of women independently and apply at-risk approach in antenatal care	S	SH	Y	Bed side clinics	Skill station		Community Medicine	Obstetrics & Gynaecology
PE18.4	Provide intra-natal care and conduct a normal Delivery in a simulated environment	S	SH	Y	DOAP session, Skills lab	Document in Log Book		Community Medicine	Obstetrics & Gynaecology
PE18.5	Provide intra-natal care and observe the conduct of a normal delivery	S	SH	Y	DOAP session	Document in Log Book			Obstetrics & Gynaecology
PE18.6	Perform Postnatal assessment of newborn and mother, provide advice on breast feeding, weaning and on family planning	S	SH	Y	Bed side clinics, Skill Lab	Skill Assessment		Community Medicine	Obstetrics & Gynaecology
PE18.8	Observe the implementation of the program by visiting the Rural Health Centre	S	KH	Y	Bed side clinics, Skill Lab	Document in log book		Community Medicine	Obstetrics & Gynaecology
PE20.6	Explain the follow up care for neonates including Breast feeding, temperature maintenance, immunization, importance of growth monitoring and red flags	S	SH	Y	DOAP session	Log book entry			Obstetrics & Gynaecology
PE32.6	Discuss the genetic basis, risk factors, clinical features, complications, prenatal diagnosis, management and genetic counselling in Turner's Syndrome	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Obstetrics & Gynaecology
PE32.8	Interpret normal Karyotype and recognize the Turner Karyotype	S	SH	N	Bed Side clinics, Skill lab	Log book			General Medicine, Obstetrics & Gynaecology
PE32.9	Discuss the referral criteria and multidisciplinary approach to management of Turner Syndrome	K	KH	N	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Obstetrics & Gynaecology

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Radiotherapy									
RT4.5	Describe and discuss role of radiation in management of common malignancies in India (region specific)	K	KH	Y	Lecture, Bed side clinic	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology
RT4.6	Describe and discuss radiotherapy for benign disease	K	KH	Y	Lecture	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology
RT4.7	Counsel patients regarding acute and late effects of radiation and supportive care	K/A/S	KH	Y	Bed side clinic, group discussion	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology
RT4.8	Describe oncological emergencies and palliative care	K/A/S	K/KH	Y	Lecture and group discussion	Written/ Viva voce			General Surgery, Obstetrics & Gynaecology
RT5.1	Describe and discuss cancer prevention, screening, vaccination, cancer registry	K	K	Y	Group discussion	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology

ORTHOPÆDICS (CODE: OR)

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
ORTHOPEDICS									
Topic: Skeletal Trauma, Poly trauma		Number of competencies : (06)			Number of procedures that require certification: (NIL)				
OR1.1	Describe and discuss the Principles of pre-hospital care and Casualty management of a trauma victim including principles of triage	K/S/A/C	K/KH	Y	Lecture with video, Small group discussion	Written/ Viva voce/ OSCE/ Simulation			General Surgery, Anaesthesiology
OR1.2	Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of management of shock	K/S	K/KH	Y	Lecture	Written/ Viva voce/ OSCE/ Simulation			General Surgery
OR1.3	Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of management of soft tissue injuries	K	KH/SH	Y	Lecture, Small group discussion	Written/ OSCE			General Surgery
OR1.4	Describe and discuss the Principles of management of soft tissue injuries	K	K/KH	Y	Lecture, Small group discussion	Written/ Assesment/ Viva voce			General Surgery
OR1.5	Describe and discuss the aetiopathogenesis, clinical features, investigations, and principles of management of dislocation of major joints, shoulder, knee, hip	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic	Written/ Viva voce/ OSCE/ Simulation			
OR1.6	Participate as a member in the team for closed reduction of shoulder dislocation / hip dislocation / knee dislocation	K/S/A/C	SH	Y	Simulation, DOAP session	OSCE/ Simulation			
Topic: Fractures		Number of competencies : (16)			Number of procedures that require certification: (NIL)				
OR2.1	Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fracture of clavicle	K/S	KH/SH	Y	Lecture, Small group discussion, Bed side clinic	Written/ Viva voce/ OSCE		Human Anatomy	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OR2.2	Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fractures of proximal humerus	K	K/KH/ SH	Y	Lecture, Small group discussion, Bed side clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.3	Select, prescribe and communicate appropriate medications for relief of joint pain	K	KH/SH	Y	Lecture, Small group discussion, Bed side clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.4	Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of fracture of shaft of humerus and intercondylar fracture humerus with emphasis on neurovascular deficit	K/S	K/KH	Y	Lecture, Small group discussion, Bed side clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.5	Describe and discuss the aetiopathogenesis, clinical features, mechanism of injury, investigation & principles of management of fractures of both bones forearm and Galeazzi and Monteggia injury	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.6	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of distal radius	K	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.7	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of pelvic injuries with emphasis on hemodynamic instability	K	K/KH/ SH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.8	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of spine injuries with emphasis on mobilisation of the patient	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.9	Describe and discuss the mechanism of injury, Clinical features, investigations and principle of management of acetabular fracture	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OR2.10	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of proximal femur	K/S/A/C	KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.11	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of (a) Fracture patella (b) Fracture distal femur (c) Fracture proximal tibia with special focus on neurovascular injury and compartment syndrome	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.12	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Fracture shaft of femur in all age groups and the recognition and management of fat embolism as a complication	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.13	Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of: (a) Fracture both bones leg (b) Calcaneus (c) Small bones of foot	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.14	Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of ankle fractures	K/S/C	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.15	Plan and interpret the investigations to diagnose complications of fractures like malunion, non-union, infection, compartmental syndrome	K/S	SH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	
OR2.16	Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of open fractures with focus on secondary infection prevention and management	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE		Human Anatomy	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Musculoskeletal Infection Number of competencies : (03) Number of Procedures that require certification: (NIL)									
OR3.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Bone and Joint infections a) Acute Osteomyelitis b) Subacute osteomyelitis c) Acute Suppurative arthritis d) Septic arthritis & HIV infection e) Spirochaetal infection f) Skeletal Tuberculosis	K/S	K/KH/ SH	Y	Lecture, Small group discussion, Video assisted lecture	Written/ Viva voce/ OSCE		Pathology, Microbiology	General surgery
OR3.2	Participate as a member in team for aspiration of joints under supervision	K/S/A/C	SH	Y	Small group Discussion. DOAP session	Viva voce/ OSCE/ Skills assessment		—	
OR3.3	Participate as a member in team for procedures like drainage of abscess, sequestrectomy/ saucerisation and arthrotomy	K/S/A/C	SH	Y	DOAP session, Video demonstration	Viva voce/ OSCE/ Skills assessment			General Surgery
Topic: Skeletal Tuberculosis Number of competencies : (01) Number of procedures that require certification: (NIL)									
OR4.1	Describe and discuss the clinical features, Investigation and principles of management of Tuberculosis affecting major joints (Hip, Knee) including cold abscess and caries spine	K	K/KH	Y	Lecture, Small group discussion, Case discussion	Written/ Viva voce/ OSCE		Pathology	General surgery
Topic: Rheumatoid Arthritis and associated inflammatory disorders Number of competencies : (01) Number of procedures that require certification: (NIL)									

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OR5.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of various inflammatory disorder of joints	K	K/KH	Y	Lecture, Small group discussion, Bedside clinic	Written/ Viva voce/ OSCE			General Medicine
Topic: Degenerative disorders Number of competencies : (01) Number of procedures that require certification: (NIL)									
OR6.1	Describe and discuss the clinical features, investigations and principles of management of degenerative condition of spine (Cervical Spondylosis, Lumbar Spondylosis, PID)	K	K/KH	Y	Lecture, Small group discussion, Case discussion	Written/ Viva voce/ OSCE			
Topic: Metabolic bone disorders Number of competencies : (01) Number of procedures that require certification: (NIL)									
OR7.1	Describe and discuss the aetiopathogenesis, clinical features, investigation and principles of management of metabolic bone disorders in particular osteoporosis, osteomalacia, rickets, Paget's disease	K	K/KH	Y	Lecture, Small group discussion, Case discussion	Written/ Viva voce/ OSCE			
Topic: Poliomyelitis Number of competencies : (01) Number of procedures that require certification: (NIL)									
OR8.1	Describe and discuss the aetiopathogenesis, clinical features, assessment and principles of management a patient with Post Polio Residual Paralysis	K	K/KH	Y	Lecture, Small group discussion, Case discussion	Written/ Viva voce/ OSCE			
Topic: Cerebral Palsy Number of competencies : (01) Number of procedures that require certification: (NIL)									

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OR9.1	Describe and discuss the aetiopathogenesis, clinical features, assessment and principles of management of Cerebral palsy patient	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce/ OSCE			
Topic: Bone Tumors Number of competencies : (01) Number of procedures that require certification: (NIL)									
OR10.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of benign and malignant bone tumours and pathological fractures	K	K/KH	Y	Lecture, Small group discussion, Video assisted interactive lecture	Written/ Viva voce/ OSCE		Pathology	General surgery, Radiotherapy
Topic: Peripheral nerve injuries Number of competencies : (01) Number of procedures that require certification: (NIL)									
OR11.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of peripheral nerve injuries in diseases like foot drop, wrist drop, claw hand, palsies of Radial, Ulnar, Median, Lateral Popliteal and Sciatic Nerves	K	K/H	Y	Lecture, Small group discussion, case discussion	Written/ Viva voce/ OSCE		Human Anatomy	General Medicine, General surgery
Topic: Congenital lesions Number of competencies : (01) Number of procedures that require certification: (NIL)									
OR12.1	Describe and discuss the clinical features, investigations and principles of management of Congenital and acquired malformations and deformities of: a. limbs and spine - Scoliosis and spinal bifida b. Congenital dislocation of Hip, Torticollis, c. congenital talipes equino varus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ OSCE		Human Anatomy	
Topic: Procedural Skills Number of competencies : (02) Number of procedures that require certification: (NIL)									

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OR13.1	Participate in a team for procedures in patients and demonstrating the ability to perform on mannequins / simulated patients in the following: i. Above elbow plaster ii. Below knee plaster iii. Above knee plaster iv. Thomas splint v. splinting for long bone fractures vi. Strapping for shoulder and clavicle trauma	S/A	KH / SH	Y	Case discussion, Video assisted Lecture, Small group discussion, Teaching, Skill lab sessions	OSCE with Simulation based assessment			
OR13.2	Participate as a member in team for Resuscitation of Polytrauma victim by doing all of the following : (a) I.V. access central - peripheral (b) Bladder catheterization (c) Endotracheal intubation (d) Splintage	S/A	KH / SH	Y	Case discussion, Video assisted Lecture, Small group discussion, Teaching, Skill lab sessions	OSCE with Simulation based assessment			Anaesthesiology
Topic: Counselling Skills Number of competencies : (03) Number of procedures that require certification: (NIL)									
OR14.1	Demonstrate the ability to counsel patients regarding prognosis in patients with various orthopedic illnesses like a. fractures with disabilities b. fractures that require prolonged bed stay c. bone tumours d. congenital disabilities	K/S/A/C	KH / SH	Y	Case discussion, Video assisted lecture, Small group discussion, Teaching, Skills lab sessions	OSCE with Simulation based assessment			AETCOM
OR14.2	Demonstrate the ability to counsel patients to obtain consent for various orthopedic procedures like limp amputation, permanent fixations etc..	K/S/A/C	KH / SH	Y	Case discussion, Video assisted Lecture, Small group discussion, Teaching, Skills lab sessions	OSCE with Simulation based assessment			AETCOM

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OR14.3	Demonstrate the ability to convince the patient for referral to a higher centre in various orthopedic illnesses, based on the detection of warning signals and need for sophisticated management	K/S/A/C	KH / SH	Y	Case discussion, Video assisted Lecture, Small group discussion, Teaching, Skills lab sessions	OSCE with Simulation based assessment			AETCOM
	Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation								
Integration									
Human Anatomy									
AN2.4	Describe various types of cartilage with its structure & distribution in body	K	KH	Y	Lecture	Written/ Viva voce		Orthopedics	
AN2.5	Describe various joints with subtypes and examples	K	KH	Y	Lecture	Written/ Viva voce		Orthopedics	
AN8.4	Demonstrate important muscle attachment on the given bone	K/S	SH	Y	Practical, DOAP session, Small group teaching	Viva voce/ Practicals		Orthopedics	
AN8.6	Describe scaphoid fracture and explain the anatomical basis of avascular necrosis	K	KH	N	DOAP session	Viva voce		Orthopedics	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN10.12	Describe and demonstrate Shoulder joint for– type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, muscles involved, blood supply, nerve supply and applied anatomy	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skills assessment		Orthopedics	
AN11.4	Describe the anatomical basis of Saturday night paralysis	K	KH	Y	Practical, Lecture	Written/ Viva voce		Orthopedics	
AN17.2	Describe anatomical basis of complications of fracture neck of femur.	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
AN17.3	Describe dislocation of hip joint and surgical hip replacement	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
AN18.6	Describe knee joint injuries with its applied anatomy	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
AN18.7	Explain anatomical basis of Osteoarthritis	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
AN19.4	Explain the anatomical basis of rupture of calcaneal tendon	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
AN19.6	Explain the anatomical basis of Flat foot & Club foot	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
AN19.7	Explain the anatomical basis of Metatarsalgia & Plantar fasciitis	K	KH	N	Lecture	Written/ Viva voce		Orthopedics	
AN50.4	Explain the anatomical basis of Scoliosis, Lordosis, Prolapsed disc, Spondylolisthesis & Spina bifida	K	KH	N	Lecture	Written		Orthopedics	
Pathology									

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PA33.1	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of osteomyelitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Orthopedics	Microbiology
PA33.2	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of bone tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Orthopedics	
PA33.3	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of soft tissue tumors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Orthopedics	
PA33.4	Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of Paget's disease of the bone	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Orthopedics	
Microbiology									
MI4.2	Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of bone & joint infections.	K	KH	Y	Lecture	Written/ Viva voce		Orthopedics	
Forensic Medicine & Toxicology									
FM3.7	Describe factors influencing infliction of injuries and healing, examination and certification of wounds and wound as a cause of death: Primary and Secondary.	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		Forensic medicine, Orthopaedics	
FM3.8	Mechanical injuries and wounds: Describe and discuss different types of weapons including dangerous weapons and their examination.	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, Orthopaedics	

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
FM3.9	Firearm injuries: Describe different types of firearms including structure and components. Along with description of ammunition propellant charge and mechanism of fire-arms, different types of cartridges and bullets and various terminology in relation of firearm – caliber, range, choking.	K	K/KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Surgery, Orthopaedics	
FM3.10	Firearm injuries: Describe and discuss wound ballistics-different types of firearm injuries, blast injuries and their interpretation, preservation and dispatch of trace evidences in cases of firearm and blast injuries, various tests related to confirmation of use of firearms	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic DOAP session	Written/ Viva voce / OSCE		General Surgery, Orthopaedics	
FM3.11	Regional Injuries: Describe and discuss regional injuries to head (Scalp wounds, fracture skull, intracranial haemorrhages, coup and contrecoup injuries), neck, chest, abdomen, limbs, genital organs, spinal cord and skeleton	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic or autopsy, DOAP session	Written/ Viva voce / OSCE/ OSPE		General Surgery, Orthopaedics	
FM3.12	Regional Injuries Describe and discuss injuries related to fall from height and vehicular injuries – Primary and Secondary impact, Secondary injuries, crush syndrome, railway spine.	K	K/KH	Y	Lecture, Small group discussion, Bed side clinic or autopsy, DOAP session	Written/ Viva voce / OSCE/ OSPE		General Surgery, Orthopaedics	
General Medicine									
IM7.5	Develop a systematic clinical approach to joint pain based on the pathophysiology	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
IM7.6	Describe and discriminate acute, subacute and chronic causes of joint pain	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
IM7.7	Discriminate, describe and discuss arthralgia from arthritis and mechanical from inflammatory causes of joint pain	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM7.8	Discriminate, describe and discuss distinguishing articular from periarticular complaints	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
IM7.9	Determine the potential causes of join pain based on the presenting features of joint involvement	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
IM7.10	Describe the common signs and symptoms of articular and periarticular diseases	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
IM7.13	Perform a systematic examination of all joints, muscle and skin that will establish the diagnosis and severity of disease	S	SH	Y	Bed side clinic, DOAP session	Skill assessment			Orthopedics
IM7.17	Enumerate the indications for arthrocentesis	K	K	Y	small group discussion, Lecture	Written/ Viva voce			Orthopedics
IM7.18	Enumerate the indications and interpret plain radiographs of joints	K	SH	Y	Bed side clinic, small group discussion	Skill assessment/ Written		Radiodiagnosis	Orthopedics
IM7.21	Select, prescribe and communicate appropriate medications for relief of joint pain	K/C	SH	Y	DOAP session	Skill assessment/ Written		Pharmacology	Orthopedics
IM24.12	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of degenerative joint disease	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
IM24.13	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of falls in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics, Physical Medicine & Rehabilitation
IM24.14	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of common fractures in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM24.16	Describe and discuss the principles of physical and social rehabilitation, functional assessment, role of physiotherapy and occupational therapy in the management of disability in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics, Physical Medicine & Rehabilitation
Physical Medicine & Rehabilitation									
PM1.2	Define and describe disability, its cause, and magnitude, identification and prevention of disability	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine Orthopedics
PM1.3	Define and describe the methods to identify and prevent disability	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine Orthopedics
PM1.4	Enumerate the rights and entitlements of differently abled persons	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Orthopedics
PM4.1	Describe the common patterns, clinical features, investigations, diagnosis and treatment of common causes of arthritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine Orthopedics
PM4.3	Observe in a mannequin or equivalent the administration of an intra-articular injection	S	KH	N	DOAP session	Skill assessment			Orthopedics
PM4.5	Demonstrate correct assessment of muscle strength and range of movements	S	SH	Y	DOAP session, Bedside clinic	Skill assessment			General Medicine Orthopedics
PM5.1	Enumerate the indications and describe the principles of amputation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics General Surgery
PM5.2	Describe the principles of early mobilization, evaluation of the residual limb, contralateral limb and the influence of co-morbidities	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PM5.3	Demonstrate the correct use of crutches in ambulation and postures to correct contractures and deformities	S	SH	Y	DOAP session, Bedside clinic discussion	Skill assessment			Orthopedics
PM5.4	Identify the correct prosthesis for common amputations	S	SH	Y	DOAP session	Skill assessment / written			Orthopedics
PM6.3	Describe the principles of skin traction, serial casts and surgical treatment including contracture release, tendon transfer, osteotomies and arthrodesis.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
PM6.4	Describe the principles of orthosis for ambulation in PPRP	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
PM7.1	Describe and discuss the clinical features, diagnostic work up, work up diagnosis and management of spinal cord injury	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Orthopedics
PM7.2	Describe and demonstrate process of transfer, applications of collar restraints while maintaining airway and prevention of secondary injury in a mannequin/model	S	SH	Y	DOAP session, Small group discussion	Skill assessment			Orthopedics
PM7.3	Perform and demonstrate a correct neurological examination in a patient with spinal injury and determine the neurologic level of injury	S	SH	Y	Bed side clinic	Skill assessment			Orthopedics
PM7.4	Assess bowel and bladder function and identify common patterns of bladder dysfunction	S	KH	Y	Small group discussion	Written/ Viva voce			General Medicine, Orthopedics
PM7.5	Enumerate the indications and identify the common mobility aids and appliances, wheel chairs	S	S	Y	DOAP session	Skill assessment/ Viva voce			Orthopedics

Number	COMPETENCY The student should be able to:	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PM7.7	Enumerate and describe common life threatening complications following SCI like Deep vein Thrombosis, Aspiration Pneumonia, Autonomic dysreflexia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine, Orthopedics
PM8.1	Describe the clinical features, evaluation, diagnosis and management of disability following traumatic brain injury	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			General Medicine, Orthopedics, General Surgery

ANAESTHESIOLOGY (CODE: AS)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal integration
ANAESTHESIOLOGY									
Topic: Anaesthesiology as a specialty Number of competencies: (04) Number of procedures that require certification: (NIL)									
AS1.1	Describe the evolution of Anaesthesiology as a modern specialty	K	K	N	Lecture	Written/ Viva voce			
AS1.2	Describe the roles of Anaesthesiologist in the medical profession (including as a peri-operative physician, in the intensive care and high dependency units, in the management of acute and chronic pain, including labour analgesia, in the resuscitation of acutely ill)	K	K	N	Lecture	Written/ Viva voce			
AS1.3	Enumerate and describe the principle of ethics as it relates to Anaesthesiology	K	K	N	Lecture	Written/ Viva voce		AETCOM	
AS1.4	Describe the prospects of Anaesthesiology as a career	K	K	N	Lecture	Written/ Viva voce			
Topic: Cardiopulmonary resuscitation Number of competencies: (02) Number of procedures that require certification : (NIL)									
AS2.1	Enumerate the indications, describe the steps and demonstrate in a simulated environment, Basic Life Support in adults, children and neonates	K/S	SH	N	DOAP session	Skill assessment		General Medicine, Pediatrics	
AS2.2	Enumerate the indications, describe the steps and demonstrate in a simulated environment, Advanced Life Support in adults and children	S	SH	N	DOAP session	Skill assessment		General Medicine	
Topic: Preoperative evaluation and medication Number of competencies: (06) Number of procedures that require certification : (NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal integration
AS3.1	Describe the principles of preoperative evaluation	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Surgery, General Medicine
AS3.2	Elicit, present and document an appropriate history including medication history in a patient undergoing Surgery as it pertains to a preoperative anaesthetic evaluation	S	SH	Y	DOAP session, Bedside clinic	Skill station			General Surgery, General Medicine
AS3.3	Demonstrate and document an appropriate clinical examination in a patient undergoing General Surgery	S	SH	Y	DOAP session, Bedside clinic	Skill station			General Surgery, General Medicine
AS3.4	Choose and interpret appropriate testing for patients undergoing Surgery	S	SH	Y	DOAP session, Bedside clinic	Skill station			General Surgery, General Medicine
AS3.5	Determine the readiness for General Surgery in a patient based on the preoperative evaluation	S	SH	Y	DOAP session, Bedside clinic	Skill station			General Surgery, General Medicine
AS3.6	Choose and write a prescription for appropriate premedications for patients undergoing surgery	S	SH	Y	DOAP session, Bedside clinic	Skill station		Pharmacology	
Topic: General Anaesthesia Number of competencies: (07) Number of procedures that require certification : (NIL)									
AS4.1	Describe and discuss the pharmacology of drugs used in induction and maintenance of general anaesthesia (including intravenous and inhalation induction agents, opiate and non-opiate analgesics, depolarising and non depolarising muscle relaxants, anticholinesterases)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pharmacology	
AS4.2	Describe the anatomy of the airway and its implications for general anaesthesia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
AS4.3	Observe and describe the principles and the practical aspects of induction and maintenance of anesthesia	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pharmacology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal integration
AS4.4	Observe and describe the principles and the steps/ techniques in maintenance of vital organ functions in patients undergoing surgical procedures	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			
AS4.5	Observe and describe the principles and the steps/ techniques in monitoring patients during anaesthesia	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			
AS4.6	Observe and describe the principles and the steps/ techniques involved in day care anesthesia	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			
AS4.7	Observe and describe the principles and the steps/ techniques involved in anaesthesia outside the operating room	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			
Topic: Regional anaesthesia Number of competencies: (06) Number of procedures that require certification: (NIL)									
AS5.1	Enumerate the indications for and describe the principles of regional anaesthesia (including spinal, epidural and combined)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
AS5.2	Describe the correlative anatomy of the brachial plexus, subarachnoid and epidural spaces	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
AS5.3	Observe and describe the principles and steps/ techniques involved in peripheral nerve blocks	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Human Anatomy	
AS5.4	Observe and describe the pharmacology and correct use of commonly used drugs and adjuvant agents in regional anesthesia	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pharmacology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal integration
AS5.5	Observe and describe the principles and steps/ techniques involved in caudal epidural in adults and children	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			
AS5.6	Observe and describe the principles and steps/ techniques involved in common blocks used in surgery (including brachial plexus blocks)	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			General Surgery
Topic: Post-anaesthesia recovery Number of competencies: (03) Number of procedures that require certification: (NIL)									
AS6.1	Describe the principles of monitoring and resuscitation in the recovery room	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			
AS6.2	Observe and enumerate the contents of the crash cart and describe the equipment used in the recovery room	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			
AS6.3	Describe the common complications encountered by patients in the recovery room, their recognition and principles of management	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			General Surgery
Topic: Intensive Care Management Number of competencies: (05) Number of procedures that require certification: (NIL)									
AS7.1	Visit, enumerate and describe the functions of an Intensive Care Unit	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			
AS7.2	Enumerate and describe the criteria for admission and discharge of a patient to an ICU	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			General Medicine
AS7.3	Observe and describe the management of an unconscious patient	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Physiology	General Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal integration
AS7.4	Observe and describe the basic setup process of a ventilator	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Physiology	General Medicine
AS7.5	Observe and describe the principles of monitoring in an ICU	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			General Medicine
Topic: Pain and its management Number of competencies: (05) Number of procedures that require certification: (NIL)									
AS8.1	Describe the anatomical correlates and physiologic principles of pain	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Human Anatomy, Physiology	
AS8.2	Elicit and determine the level, quality and quantity of pain and its tolerance in patient or surrogate	S	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Physiology	
AS8.3	Describe the pharmacology and use of drugs in the management of pain	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pharmacology	
AS8.4	Describe the principles of pain management in palliative care	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pharmacology	General Medicine
AS8.5	Describe the principles of pain management in the terminally ill	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pharmacology	General Medicine
Topic: Fluids Number of competencies: (04) Number of procedures that require certification: (NIL)									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal integration
AS9.1	Establish intravenous access in a simulated environment	S	KH	Y	Small group discussion, DOAP session	Skill assessment			
AS9.2	Establish central venous access in a simulated environment	S	KH	Y	Small group discussion, DOAP session	Skill assessment			
AS9.3	Describe the principles of fluid therapy in the preoperative period	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			General Surgery
AS9.4	Enumerate blood products and describe the use of blood products in the preoperative period	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pathology	General Surgery
Topic: Patient safety Number of competencies: (04) Number of procedures that require certification: (NIL)									
AS10.1	Enumerate the hazards of incorrect patient positioning	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			
AS10.2	Enumerate the hazards encountered in the perioperative period and steps/techniques taken to prevent them	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce			
AS10.3	Describe the role of communication in patient safety	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		AETCOM	General Surgery
AS10.4	Define and describe common medical and medication errors in anaesthesia	K	KH	Y	Lecture, Small group discussion, DOAP session	Written/ Viva voce		Pharmacology	General Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal integration
	Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation								
Integration									
Physiology									
PY3.4	Describe the structure of neuro-muscular junction and transmission of impulses	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Anaesthesiology	
PY3.5	Discuss the action of neuro-muscular blocking agents	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Anaesthesiology Pharmacology	
PY11.14	Demonstrate Basic Life Support in a simulated environment	S	SH	Y	DOAP sessions	OSCE		General Medicine Anaesthesiology	
Pharmacology									
PH1.15	Describe mechanism/s of action, types, doses, side effects, indications and contraindications of skeletal muscle relaxants	K	KH	Y	Lecture	Written/ Viva voce		Anesthesiology, Physiology	
PH1.17	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of local anaesthetics	K	KH	Y	Lecture	Written/ Viva voce		Anesthesiology	
PH1.18	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of general anaesthetics, and pre-anaesthetic medications	K	KH	Y	Lecture	Written/ Viva voce		Anesthesiology	
Forensic Medicine & Toxicology									

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal integration
FM2.19	Investigation of anaesthetic, operative deaths: Describe and discuss special protocols for conduction of autopsy and for collection, preservation and dispatch of related material evidences	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Anesthesiology, General Surgery	
General Medicine									
IM13.17	Describe and enumerate the indications, use, side effects of narcotics in pain alleviation in patients with cancer	K	KB	Y	Bedside clinic, small group discussion	short note/ Viva voce		Pharmacology	Anesthesiology
IM24.11	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of the elderly undergoing surgery	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Anesthesiology General Surgery
General Surgery									
SU11.1	Describe principles of Preoperative assessment.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Anesthesiology
SU11.2	Enumerate the principles of general, regional, and local Anaesthesia.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Anesthesiology
SU11.3	Demonstrate maintenance of an airway in a mannequin or equivalent	S	SH	Y	DOAP session	Skill Assessment			Anesthesiology
SU11.5	Describe principles of providing post-operative pain relief and management of chronic pain.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Anesthesiology
SU17.2	Demonstrate the steps in Basic Life Support. Transport of injured patient in a simulated environment	S	SH	Y	DOAP session	Skill assessment			Anesthesiology

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical integration	Horizontal integration
SU17.10	Demonstrate Airway maintenance and recognize and management of tension pneumothorax, hemothorax and flail chest in simulated environment	S	SH	Y	DOAP session	Skill Assessment/ Log book			Anesthesiology
Orthopaedics									
OR1.1	Describe and discuss the Principles of Pre hospital care and Casualty management of a trauma victim including principles of triage,	K/S/A/C	K, KH	Y	Lecture with video, Small group Discussion	Written/ Viva voce/ OSCE/ Simulation			General Surgery Anaesthesiology
OR13.2	Participate as a member in team for Resuscitation of Polytrauma victim by doing all of the following : (a) IV. access central - peripheral (b) Bladder catheterization (c) Endotracheal intubation (d) Splintage	S/A	KH / SH	Y	Case discussion, Video assisted Lecture, Small group discussion, Teaching, Skill lab sessions	OSCE with Simulation based assessment			Anaesthesiology

RADIODIAGNOSIS (CODE: RD)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
RADIODIAGNOSIS									
Topic: Radiological investigations and Radiation safety		Number of competencies: (13)			Number of procedures that require certification: (NIL)				
RD1.1	Define radiation and the interaction of radiation and importance of radiation protection	K	KH	Y	Lecture, Demonstration				
RD1.2	Describe the evolution of Radiodiagnosis. Identify various radiological equipments In the current era	S	SH	Y	Lecture, Demonstration				
RD1.3	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and interpret findings in common conditions pertaining to disorder of ENT	K/S	SH	Y	Lecture, Demonstration				
RD1.4	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and interpret findings in common conditions pertaining to disorder in Ob & Gy	K/S	SH	Y	Lecture, Demonstration				
RD1.5	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and interpret findings in common conditions pertaining to disorder in internal medicine	K/S	SH	Y	Lecture, Demonstration				
RD1.6	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and interpret findings in common conditions pertaining to disorders in surgery	K/S	SH	Y	Lecture, Demonstration				
RD1.7	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and interpret findings in common conditions pertaining to disorder in Pediatrics	K/S	SH	Y	Lecture, Demonstration				

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
RD1.8	Enumerate indications for various common radiological investigations, choose the most appropriate and cost effective method and interpret findings in common conditions pertaining to common malignancies	K/S	SH	Y	Lecture, Demonstration				
RD1.9	Describe the role of Interventional Radiology in common clinical conditions	K	KH	Y	Lecture, Demonstration				
RD1.10	Describe the role of Emergency Radiology, miscellaneous & applied aspects, interaction with clinical departments	K	KH	Y	Lecture, Demonstration				
RD1.11	Describe preparation of patient for common imaging procedures	K	KH	Y	Lecture, Demonstration				
RD1.12	Describe the effects of radiation in pregnancy and the methods of prevention/ minimization of radiation exposure	K	KH	Y	Lecture, Demonstration				
RD1.13	Describe the components of the PC & PNDT Act and its medicolegal implications	K	KH	Y	Lecture, Small group discussion			Obstetrics & Gynaecology, Forensic Medicine & Toxicology	
	Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform. Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation								
Integration									
Human Anatomy									
AN13.4	Identify the bones and joints of upper limb seen in anteroposterior and lateral view radiographs of shoulder region, arm, elbow, forearm and hand	K/S	SH	Y	Practical, Small group discussion, DOAP session	Viva voce/ Skill assessment		Radiodiagnosis	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN20.6	Identify the bones and joints of lower limb seen in anteroposterior and lateral view radiographs of various regions of lower limb	K/S	SH	Y	Lecture, Small group discussion, DOAP session	Viva voce/ Skill assessment		Radiodiagnosis	
AN25.7	Identify structures seen on a plain x-ray chest (PA view)	K/S	SH	Y	Practical, DOAP session	Written/ Viva voce		Radiodiagnosis, General Medicine	
AN25.8	Identify and describe in brief a barium swallow	K/S	SH	N	Practical, DOAP session	Written/ Viva voce		Radiodiagnosis, General Medicine	
AN43.7	Identify the anatomical structures in 1) Plain x ray skull, 2) AP view and lateral view 3) Plain x ray cervical spine - AP and lateral view 4) Plain x ray of paranasal sinuses	K/S	SH	Y	Practical	Viva voce/ Skill assessment		Radiodiagnosis	
AN43.8	Describe the anatomical route used for carotid angiogram and vertebral angiogram	K/S	SH	N	Practical	Viva voce/ Skill assessment		Radiodiagnosis	
AN43.9	Identify anatomical structures in carotid angiogram and vertebral angiogram	K/S	SH	N	Practical	Viva voce/ Skill assessment		Radiodiagnosis	
AN51.1	Describe & identify the cross-section at the level of T8, T10 and L1 (transpyloric plane)	K/S	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		Radiodiagnosis	
AN51.2	Describe & identify the midsagittal section of male and female pelvis	K	SH	Y	Practical, Lecture, Small group discussion, DOAP session	Written/ Viva voce/ Skill assessment		Radiodiagnosis	
AN54.1.	Describe & identify features of plain X ray abdomen	K/S	SH	Y	Lecture, DOAP session	Viva voce/ Skill assessment		Radiodiagnosis	
AN54.2	Describe & identify the special radiographs of abdominopelvic region (contrast X ray Barium swallow, Barium meal, Barium enema, Cholecystography, Intravenous pyelography &Hysterosalpingography)	K/S	SH	Y	Lecture, DOAP session	Viva voce/ Skill assessment		Radiodiagnosis	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN54.3	Describe role of ERCP, CT abdomen, MRI, Arteriography in radiodiagnosis of abdomen	K	KH	N	Lecture	Viva voce		Radiodiagnosis	
Forensic Medicine & Toxicology									
FM1.9	Describe the importance of documentation in medical practice in regard to medicolegal examinations, Medical Certificates and medicolegal reports especially: – maintenance of patient case records, discharge summary, prescribed registers to be maintained in Health Centres. -- maintenance of medico-legal register like accident register. -- documents of issuance of wound certificate -- documents of issuance of drunkenness certificate. -- documents of issuance of sickness and fitness certificate. -- documents for issuance of death certificate. -- documents of Medical Certification of Cause of Death - Form Number4 and 4A -- documents for estimation of age by physical, dental and radiological examination and issuance of certificate	K	KH	Y	Lecture/ Small group discussion	Written/ Viva voce		Radiodiagnosis, General Surgery, General Medicine, Pediatrics	
General Medicine									
IM1.19	Enumerate the indications for and describe the findings of heart failure with the following conditions including: 2D echocardiography, brain natriuretic peptide, exercise testing, nuclear medicine testing and coronary angiogram	S	KH	N	Lecture, Small group discussion, Bedside clinic	Skill assessment		Radiodiagnosis	
IM3.7	Order and interpret diagnostic tests based on the clinical presentation including: CBC, Chest X ray PA view, Mantoux, sputum gram stain, sputum culture and sensitivity, pleural fluid examination and culture, HIV testing and ABG	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Radiodiagnosis, Microbiology	
IM3.11	Describe and enumerate the indications for further testing including HRCT, Viral cultures, PCR and specialised testing	S	SH	Y	Bedside clinic, DOAP session	Skill assessment		Radiodiagnosis, Microbiology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
IM5.13	Enumerate the indications for ultrasound and other imaging studies including MRCP and ERCP and describe the findings in liver disease	K	K	Y	Bedside clinic, Small group discussion	Viva voce/ Written		Radiodiagnosis	General Surgery
IM6.12	Enumerate the indications and describe the findings for CT of the chest and brain and MRI	K	K	N	Small group discussion, Lecture, Bedside clinic	Written/ Viva voce		Radiodiagnosis	
IM7.18	Enumerate the indications and interpret plain radiographs of joints	K	SH	Y	Bedside clinic, Small group discussion	Skill assessment/ Written		Radiodiagnosis	Orthopedics
IM10.19	Enumerate the indications and describe the findings in renal ultrasound	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Radiodiagnosis	
IM13.12	Describe the indications and interpret the results of Chest X Ray, mammogram, skin and tissue biopsies and tumor markers used in common cancers	K	KH	Y	Bedside clinic, Small group discussion	Short note/ Viva voce		Radiodiagnosis	
IM18.9	Choose and interpret the appropriate diagnostic and imaging test that will delineate the anatomy and underlying cause of the lesion	S	KH	Y	Bedside clinic, DOAP session, Small group discussion	Written/ Viva voce/ Skill assessment		Radiodiagnosis	
IM19.7	Choose and interpret diagnostic and imaging tests in the diagnosis of movement disorders	S	SH	Y	Bedside clinic, Small group discussion	Skill assessment/ Small group session/ Written/ Viva voce		Radiodiagnosis	
Obstetrics & Gynaecology									
OG9.4	Discuss the clinical features, laboratory investigations ultrasonography, differential diagnosis, principles of management and follow up of gestational trophoblastic neoplasms	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Radiodiagnosis
Pediatrics									
PE21.12	Interpret report of Plain radiograph of KUB	S	SH	Y	Bedside clinics, Skills lab	Log book		Radiodiagnosis	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
PE21.13	Enumerate the indications for and Interpret the written report of Ultra sonogram of KUB	S	SH	Y	Bedside clinics, Skills lab	Log book		Radiodiagnosis	
PE23.13	Interpret a chest radiograph and recognize Cardiomegaly	S	SH	Y	Bedside clinics, Skills lab	Log book entry		Radiodiagnosis	
PE23.16	Use the ECHO reports in management of cases	S	SH	Y	Bedside clinics	Log book entry		Radiodiagnosis	
PE28.17	Interpret X-ray of the paranasal sinuses and mastoid; and /or use written report in case of management Interpret CXR in foreign body aspiration and lower respiratory tract infection, understand the significance of thymic shadow in Pediatric chest X-rays	S	P	Y	Bedside clinics, Small group discussion	Skills Assessment	3	ENT, Radiodiagnosis	
PE30.23	Interpret the reports of EEG, CT, MRI	S	SH	Y	Bedside clinics, Skill lab	Log book		Radiodiagnosis	
PE34.8	Interpret a Chest radiograph	S	SH	Y	Bedside clinics, Skill lab	Skill assessment		Radiodiagnosis	Respiratory Medicine
General Surgery									
SU25.3	Describe the etiopathogenesis, clinical features, Investigations and principles of treatment of benign and malignant tumours of breast.	K	KH	Y	Lecture, Small group discussion, Demonstration	Written/ Viva voce Skill assessment		Radiodiagnosis	

RADIODTHERAPY (CODE: RT)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested teaching learning method	Suggested assessment method	Number required to certify P	Vertical integration	Horizontal integration
RADIOTHERAPY									
Topic: Principles of Radiation Oncology (Radiotherapy) Number of competencies: (03) Number of procedures that require certification : (NIL)									
RT1.1	Describe and discuss definition of radiation, mechanism of action of radiation, types of radiation	K	KH	Y	Lecture	Written/ Viva voce			General Surgery, Anaesthesiology
RT1.2	Describe and discuss interaction of radiation with matter & measurement of radiation	K	KH	Y	Lecture	Written/ Viva voce			
RT1.3	Enumerate, describe and discuss classification and staging of cancer (AJCC, FIGO etc.)	K	KH	Y	Lecture	Written/ Viva voce		Pathology	General Surgery, General Medicine
Topic: Radiation Protection Number of competencies: (01) Number of procedures that require certification : (NIL)									
RT2.1	Describe and discuss radiation protection and personnel monitoring during radiation treatment	K	KH	Y	Lecture	Written/ Viva voce			
Topic: Radiobiology & Chemoradiation Number of competencies: (02) Number of procedures that require certification : (NIL)									
RT3.1	Describe and discuss cell cycle and cell survival curve, principles of radiobiology	K	KH	Y	Lecture	Written/ Viva voce			
RT3.2	Describe and discuss synergism of radiation and chemotherapy	K	KH	Y	Lecture	Written/ Viva voce			
Topic: Radiation Treatment Delivery & outcome Number of competencies: (09) Number of procedures that require certification : (NIL)									
RT4.1	Describe and discuss teletherapy machine (Co60/LINAC)	K	KH	Y	DOAP session	Written/ Viva voce			
RT4.2	Enumerate, describe and discuss types of treatment plan, basic workflow of 2D/3DCRT/IMRT/IGRT	K	KH	Y	DOAP session	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested teaching learning method	Suggested assessment method	Number required to certify P	Vertical integration	Horizontal integration
RT4.3	Describe and discuss Brachytherapy machine (remote after loading)	K	KH	Y	DOAP session	Written/ Viva voce			
RT4.4	Describe and discuss different radioactive isotopes and their use in cancer patients	K	KH	Y	Lecture	Written/ Viva voce			
RT4.5	Describe and discuss role of radiation in management of common malignancies in India (region specific)	K	KH	Y	Lecture and Bed side clinics	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology
RT4.6	Describe and discuss radiotherapy for benign disease	K	KH	Y	Lecture	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology
RT4.7	Counsel patients regarding acute and late effects of radiation and supportive care	K/A/S	KH	Y	Bed side clinic, group discussion	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology
RT4.8	Describe oncological emergencies and palliative care	K/A/S	K/KH	Y	Lecture, group discussion	Written/ Viva voce			General Surgery, Obstetrics & Gynaecology
RT4.9	Display empathy in the care of patients with cancer	A	SH	N				AETCOM	
Topic: Cancer Prevention & Registries Number of competencies: (01) Number of procedures that require certification : (NIL)									
RT5.1	Describe and discuss cancer prevention, screening, vaccination, cancer registry	K	K	Y	Group discussion	Written/ Viva voce		Pathology	General Surgery, Obstetrics & Gynaecology

Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication.

Column D: K – Knows, KH - Knows How, SH- Shows how, P- performs independently,

Column F: DOAP session – Demonstrate, Observe, Assess, Perform.

Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core Y/N	Suggested teaching learning method	Suggested assessment method	Number required to certify P	Vertical integration	Horizontal integration
Orthopaedics									
OR10.1	Describe and discuss the aetiopathogenesis, Clinical features, Investigations and principles of management of benign and malignant bone tumours and pathological fractures	K	K/KH	Y	Lecture, Small group discussion, Video assisted interactive lecture	Written/ Viva voce/ OSCE		Pathology	General Surgery, Radiotherapy

DENTISTRY (CODE: DE)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
DENTISTRY									
Topic: Dental Caries		Number of competencies: (05)			Number of procedures that require certification (NIL)				
DE1.1	Enumerate the parts of the tooth	K	K	N	Lecture, Small group discussion	Viva voce		Human Anatomy	
DE1.2	Discuss the role of causative microorganisms in the aetio-pathogenesis of dental caries	K	KH	Y	Lecture, Small group discussion	Viva voce		Microbiology	
DE1.3	Identify Dental caries	S	SH	N	Observation, Bed side clinics	Skill assessment			
DE1.4	Discuss the role of dental caries as a focus of sepsis	K	KH	Y	Lecture, Small group discussion	Viva voce		Microbiology, General Medicine	
DE1.5	Counsel patients with respect to oral hygiene, diet and the direct bearing on systemic health	A/C	SH	Y	DOAP session	Document in Log book			
Topic: Edentulous state		Number of competencies: (05)			Number of procedures that require certification (NIL)				
DE2.1	Discuss the various causes for partial /complete loss of teeth and associated structures	K	K	N	Lecture, Small group discussion	Viva voce			
DE2.2	Discuss the local and systemic sequelae of the above	K	KH	Y	Lecture, Small group discussion	Viva voce			
DE2.3	Identify complete complement of teeth and identify missing teeth	S	SH	N	Observation, Bed side clinics	Skill assessment			
DE2.4	Enumerate common ways of restoring the edentulous state	K	KH	Y	Lecture, Small group discussion	Viva voce			
DE2.5	Counsel patients on the importance of restoring missing teeth/tissues with respect to the benefits on oral and systemic health.	A/C	SH	Y	DOAP session	Document in Log book			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Malocclusion		Number of competencies: (04)			Number of procedures that require certification: (NIL)				
DE3.1	Aware of malocclusion and the tissues that cause it	K	K	N	Lecture, Small group discussion	Viva voce			
DE3.2	Enumerate the impact of malocclusion on aesthetics, health	K	KH	Y	Lecture, Small group discussion	Viva voce			
DE3.3	Identify malocclusion	S	SH	N	Observation, Bedside clinics	Skill assessment			
DE3.4	Counsel patients with respect to correction of malocclusion and the role it might have on oral health specifically on the TMJ	A/C	SH	Y	DOAP session	Document in Log book			
Topic: Oral cancer		Number of competencies: (04)			Number of procedures that require certification: (NIL)				
DE4.1	Discuss the prevalence of oral cancer and enumerate the common types of cancer that can affect tissues of the oral cavity	K	K	N	Lecture, Small group discussion	Viva voce		Pathology	ENT
DE4.2	Discuss the role of etiological factors in the formation of precancerous /cancerous lesions	K	KH	Y	Lecture, Small group discussion	Viva voce		Pathology	ENT
DE4.3	Identify potential pre-cancerous /cancerous lesions	S	SH	N	Observation, Bed side clinics	Skill assessment		Pathology	ENT
DE4.4	Counsel patients to risks of oral cancer with respect to tobacco, smoking, alcohol and other causative factors.	A/C	SH	Y	DOAP session	Document in Log book		Pathology	ENT
Topic: Periodontal disease		Number of competencies: (05)			Number of procedures that require certification: (NIL)				
DE5.1	Enumerate the parts of the tooth and supporting structures	K	K	N	Lecture, Small group discussion	Viva voce		Human Anatomy	
DE5.2	Enumerate the common diseases that affect the periodontium and identify local and systemic causative factors	K	KH	Y	Lecture, Small group discussion	Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
DE5.3	Identify Periodontal disease	S	SH	N	Observation, Bedside clinics	Skill assessment			
DE5.4	Discuss the role of Periodontal disease as a focus of sepsis	K	KH	Y	Lecture, Small group discussion	Viva voce			
DE5.5	Counsel patients with respect to oral hygiene, diet and the direct bearing on systemic health and vice versa	A/C	SH	Y	DOAP session	Document in Log book			

Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication.

Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently,

Column F: DOAP session – Demonstrate, Observe, Assess, Perform.

Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation

Integration									
Pathology									
PA24.1	Describe the etiology, pathogenesis, pathology and clinical features of oral cancers	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Dentistry	

List of contributing subject Experts

1. Human Anatomy

- Dr. Praveen R Singh, Professor & Head, Department of Anatomy, Pramukhswami Medical College, Karamsad, Gujarat
- Dr. Nachiket Shankar, Associate Professor, Department of Anatomy, St. John's Medical College & Hospital, Bangalore

2. Physiology

- Dr. Mario Vaz, Professor, Department of Physiology, St. John's Medical College & Hospital, Bangalore
- Dr. Jayashree Sengupta, Former Professor & Head, Department of Physiology, All India Institute of Medical Sciences, New Delhi.
- Dr Hasmukh D Shah, Professor & Head, Department of Physiology, Pramukhswami Medical College, Karamsad, Gujarat

3. Biochemistry

- Dr. Nibhriti Das, Professor, Department of Biochemistry, All India Institute of Medical Sciences, New Delhi
- Dr. S. P. Singh, Professor, Department of Biochemistry, Maharani Laxmi Bai Medical College, Jhansi, Uttar Pradesh
- Dr. Hitesh N Shah, Professor & Head, Department of Biochemistry, Pramukhswami Medical College, Karamsad, Gujarat

4. Pharmacology

- Dr. S. K. Maulik, Professor, Department of Pharmacology, All India Institute of Medical Sciences, New Delhi
- Dr. Vandana Roy, Professor, Department of Pharmacology, Maulana Azad Medical College, New Delhi

5. Pathology

- Dr. S. Datta Gupta, Professor, Department of Pathology, All India Institute of Medical Sciences, New Delhi
- Dr. Uma Chaturvedi, Professor, C-1303, Freedom Park Life, Sector- 57, Gurugram

6. Microbiology

- Dr. S. Geetalakshmi, Dean, Professor, Department of Microbiology, Stanley Medical College, Chennai, Tamil Nadu.
- Dr. Padma Srikanth, Professor, Department of Microbiology, Sri Ramachandra Medical College & Research Institute, Chennai
- Dr. Suman Singh, Professor, Department of Microbiology, Pramukhswami Medical College, Karamsad, Gujarat

7. Forensic Medicine & Toxicology

- Dr. Sanjeev Lalwani, Professor & Registrar (Academics), Department of Forensic Medicine, All India Institute of Medical Sciences, New Delhi
- Dr. T. D. Dogra, Former Director & Former Head, Department of Forensic Medicine, All India Institute of Medical Sciences, New Delhi; currently, Vice Chancellor, SGT University, Gurugram
- Col. Ravi Rautji, Professor & Head, Department of Forensic Medicine, Commanding Officer, Directorate General of Medical Services (Army), New Delhi
- Dr. S.D. Nanandkar, Professor & Head, Department of Forensic Medicine, Grant Government Medical College & Sir J.J. Group of Hospitals, Mumbai
- Dr. Indrajit L. Khandekar, In-charge CFMU and Associate Professor, Department of Forensic Medicine & Toxicology, MGIMS and Kasturba Hospital, Sewagram, Wardha.
- Dr. S. B. Punpale, Professor & Head, Department of Forensic Medicine, B. J. Medical College, Pune, Maharashtra

8. Community Medicine

- Dr. B. S. Garg, Professor & Head, Department of Community Medicine, Mahatama Gandhi Institute of Medical Sciences, Wardha, Sewagram, Maharashtra
- Dr. Umesh Kapil, Professor, Department of Community Medicine, All India Institute of Medical Sciences, New Delhi
- Dr. Sanjay Zodpey, Director, Public Health Foundation of India, Isid Campus, 4 Institutional Area, Vasant Kunj, New Delhi
- Dr. Saudan Singh, Professor, Department of Community Medicine, Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi
- Dr. Dinesh Kumar, Professor, Department of Community Medicine, Pramukhswami Medical College, Karamsad, Gujarat
- Dr. Pankaj B. Shah, Professor, Department of Community Medicine, Sri Ramachandra Medical College & Research Institute, Chennai.

9. General Medicine & Respiratory Medicine

- Dr. Krishna G. Seshadri, Visiting Professor, Endocrinology & Metabolism, Balaji Vidyapeeth, Puducherry
- Dr. M. K. Bhatnagar, Director Professor, Department of General Medicine, Lady Hardinge Medical College, New Delhi
- Dr. Aparna Agarwal, Director Professor of Medicine, Lady Hardinge Medical College, New Delhi
- Dr. Anil Gurtoo, Director Professor of Medicine, Lady Hardinge Medical College, New Delhi

10. Pediatrics

- Dr. Harish Chellani, Professor of Pediatrics, Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi
- Dr. A. K. Dutta, Former Head, Kalawati Saran Children's Hospital, New Delhi

- Dr. S. Aneja, Director Professor & Head, Department of Pediatrics, Kalawati Saran Children's Hospital, New Delhi
- Dr. Latha Ravichandran, Professor, Department of Paediatrics, Sri Ramachandra Medical College & Research Institute, Chennai.

11. Psychiatry

- Dr. Rakesh Kumar Chadda, Department of Psychiatry, All India Institute of Medical Sciences, New Delhi
- Dr. N. M. Patil, Professor, Department of Psychiatry, Jawaharlal Nehru Medical College, Belagavi
- Dr. Rajesh Rastogi, Consultant & Head Department of Psychiatry, Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi.
- Dr. Jagdish R Varma, Associate Professor, Department of Psychiatry, Pramukhswami Medical College, Karamsad, Gujarat

12. Dermatology, Venereology & Leprosy

- Dr. R. K. Gautam, Professor, Department of Dermatology, Venereology & Leprosy, Dr. Ram Manohar Lohia Hospital, New Delhi.
- Dr. Sujay Khandpur, Professor, Department of Dermatology, Venereology & Leprosy, All India Institute of Medical Sciences, New Delhi
- Dr. S. Murugan, Associate Professor of Dermatology, Sri Ramachandra Medical College & Research Institute, Chennai

13. Physical Medicine and Rehabilitation

- Dr. Sanjay Wadhwa, Professor, Department of Physical Medicine & Rehabilitation, All India Institute of Medical Sciences, New Delhi
- Dr. George Tharion, Head, Department of Physical Medicine & Rehabilitation, Christian Medical College, Vellore, Tamil Nadu

- Dr. Jagdish Menon, Professor & Head, Department of Orthopaedics and Dept. of Physical & Rehabilitative Medicine, Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry

14. General Surgery

- Dr. N Ananthakrishnan, 2A Vairam Enclave, Siddhananda Nagar, Pondicherry -605005.
- Dr. P. V. Chalam, Former Professor, Department of Surgery, Gandhi Medical College, Secunderabad, Telengana.
- Dr. Dinesh Bhatnagar, Professor, Department of General Surgery, North Delhi Municipal Corporation Medical College, Hindu Rao Hospital, Malka Ganj, Delhi

15. Ophthalmology

- Dr. Smita Singh, Professor, Department of Ophthalmology, Mahatma Gandhi Institute of Medical Sciences, Wardha

16. Oto-rhino-laryngology

- Dr. Achal Gulati, Director Professor, Department of ENT, Maulana Azad Medical College, New Delhi
- Dr. Ravi Kumar, Professor & Head, Department of ENT, Sri Ramachandra Medical College & Research Institute, Chennai
- Dr. Suma Mathew, Professor, Department of ENT, Christian Medical College, Vellore, Tamil Nadu

17. Obstetrics and Gynaecology

- Dr. Neerja Bhatla, Professor, Department of Obstetrics & Gynecology, All India Institute of Medical Sciences, New Delhi
- Dr. Annie Regi, Professor & Head, Department of Obstetrics & Gynecology, Christian Medical College, Vellore, Tamil Nadu
- Dr. Usha Vishwanath, Professor, Department of Obstetrics & Gynecology, Sri Ramachandra Medical College & Research Institute, Chennai

18. Orthopaedics

- Dr. P.V. Vijayaraghavan, Vice Chancellor & Professor of Orthopedics, Sri Ramachandra Medical College & Research Institute, Chennai
- Dr. Raj Bahadur, Professor & Head, Department of Orthopaedics, Postgraduate Institute of Medical Sciences, Chandigarh
- Dr. SC. Goel, Professor, Department of Orthopaedics, Institute of Medical Sciences, BHU, Varanasi, Uttar Pradesh

19. Anaesthesiology

- Dr. Baljit Singh, Director Professor of Anaesthesia, G. B. Pant Hospital, Delhi
- Dr. Ramesh Keshav, Department of Anaesthesia, Dr. Ram Manohar Lohia Hospital, New Delhi
- Dr. Mridula Pawar, Consultant & Head, Department of Anaesthesia, Vardhman Mahavir Medical College & Safdarjung Hospital, New Delhi

20. Radio- Diagnosis

- Dr. Kishor Taori (late), Professor & Head, Department of Radiodiagnosis, Government Medical College, Nagpur

21. Radiotherapy

- Dr. P. K. Jhulka, Dean & Professor of Radiotherapy, All India Institute of Medical Sciences, New Delhi.
- Dr. Shyam Shrivastava, Head, Department of Radiation, Tata Memorial Hospital, Mumbai

22. Dentistry

- Dr. Sridevi Padmanabhan, Professor, Department of Orthodontics, Faculty of Dental Sciences, Sri Ramchandra Medical College & Research Institute, Chennai