

SCHEME OF EXAMINATION

And

SYLLABI

for

Bridge Course
(Interior Design)
Level IV Skill Component

Offered by

University School of Engineering and Technology

1st SEMESTER to 2nd SEMESTER



**GURU GOBIND SINGH
INDRAPRASTHA
UNIVERSITY**

**Guru Gobind Singh Indraprastha University
Dwarka, Delhi – 110078 [INDIA]**

www.ipu.ac.in

NOMENCLATURE OF CODES GIVEN IN THE SCHEME OF B.VOC

1. **ET** stands for Engineering and Technology.
2. **AP** stands for Architecture and Planning
3. **V** stands for Vocation.
4. **MC** stands for Mobile Communication.
5. **SD** stands for Software Development.
6. **AE** stands for Automobile.
7. **CE** stands for Consumer Electronics.
8. **PT** stands for Printing Technology.
9. **CT** stands for Construction Technology.
10. **RA** stands for Refrigeration & Air-Conditioning.
11. **PD** stands for Power Distribution Management.
12. **ID** stands for Interior Design.
13. **AA** stands for Applied Arts.
14. **CS** stands for Computer Science.
15. **MS** stands for Management Studies.
16. **EN** stands for Environmental Engineering
17. **PH** stands for Physics
18. **AS** stands for Applied Science.
19. **HS** stands for Humanities and Social Sciences.
20. **SS** stands for Social Services.
21. **L/T** stands for Lecture and Tutorial
22. **P** stands for Practical.
23. **S/D** stands for Drawing/Studio
24. **P/D** stands for Practical/Drawing

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TITLE OF THE PROGRAMME
BACHELORS OF VOCATION IN INTERIOR DESIGN

Preamble:

Creativity is the essence of Interior Design. Interior Design is an art and process of designing the Interior spaces. Interior Design deals with the optimum utilization of space, physical comfort and visual enrichment. An Interior Designer can take undertake projects that includes arranging the basic layout of space within the building as well as projects that requires understanding of Technical issues. Interior Design is now a specialized branch of the building industry .Interior Designer requires deep knowledge of style, new techniques and latest materials as a profession Interior Design offers great challenges and sky is the limit.

Aims & Objective: -

- To provide vertical & horizontal mobility to students passed 10+2 with vocation subjects.
- Banking of credits for skills and general components which enables the students for multiple exit and entry point
- The programme structure attempts to blend appropriate technical knowledge and skills, personal and professional skills and substantive ‘hands-on’ and field / site experience required in the trade.
- To integrate NSQF level in order to enhance employability of the graduates and meet industry requirements. Such graduates apart from meeting the needs of local and national industry are also expected to be equipped to become part of the global work force.
- The learners will have flexibility to develop themselves according to their strengths and career interests.

Job Prospects –

- Level V – One Year DIPLOMA
Pass out students can take up drafting work in Interior Design and Architects office.
- Level VI-ADVANCE DIPLOMA
Can work with Interior Designers and Architects and can also take up jobs as Display and Exhibition designers
- Level VII-
Students are ready to take up both the above said jobs and complete Interior Design projects for providing only consultancy and turnkey basis. They can also take up specific jobs according to their interest such as Product Design, Furniture Design, Furnishing Design, Teaching, Govt. Jobs etc.

**BACHELOR OF VOCATION
INTERIOR DESIGN (LEVEL 3)
BRIDGE COURSE FOR BOTH (10+2)/ITI STUDENTS
(FIRST SEMESTER EXAMINATION)**

Code No	Paper ID	Paper	L	S/D	Credits
APVID-401		Basic Design-I	2	2	3
APVID-403		Graphic Presentation-I	2	2	3
APVID-405		Furniture Design-I	2	2	3
APVID-407		Material Specification	3	0	3
TOTAL					12

**BACHELOR OF VOCATION
INTERIOR DESIGN (LEVEL 4)
BRIDGE COURSE FOR BOTH (10+2)/ITI STUDENTS
(SECOND SEMESTER EXAMINATION)**

Code No	Paper ID	Paper	L	S/D	Credits
APVID-402		Basic Design-II	2	2	3
APVID-404		Graphic Presentation-II	2	2	3
APVID-406		Furniture Design-II	2	2	3
APVID-408		Interior Design	2	2	3
TOTAL					12

No. of hours: 12 x 15 = 180 and Total hours of study in Bridge Course: 180 + 180 = 360

Note: The students are advised to mandatorily complete the bridge course alongwith LEVEL-V regular course. The credits earned are of qualifying nature and should be completed within four semesters (2 years) for obtaining Diploma/Advanced Diploma/ B.Voc Degree, as a pre-requisite. A certificate to this affect shall be issued by the Principal/Director of affiliated Institutes to be submitted to COE. NSQF LEVEL-IV certification may be done through the respective agencies involved.

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BASIC DESIGN-I

Paper Code: APVID-401
Paper: Basic Design-I

L	P/D	C
2	2	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives: To developed aesthetics and drawing abilities.

UNIT-I**Free Hand Sketching:**

1. Straight lines, curve lines, slant lines etc.
2. Sketching of objects in pencil.
3. Rendering with pencil shading and ink.
4. Rendering with color.

UNIT-II**Source of Design:**

1. Sketching Natural Environment, Leaves, Flowers, Trees, Non-Living forms and Living forms.

UNIT-III**Composition:**

1. Drawing compositions using lines and geometrical shapes and natural environment.

UNIT-IV**Decorative Design:**

1. On the basis of source of Design decorative design like Murals ,Wallpaper, Carpets, Draperies & Upholstery can be made on sheets

Note: Sheets and files to be prepared on the above topics.

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GRAPHIC PRESENTATION-I

Paper Code: APVID-403
Paper: Basic Design-I

L	P/D	C
2	2	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives: To develop skills in drawing and drafting.

UNIT-I**Use of Drawing Board, T- Scale, Sets Square**

1. Drawing Horizontal and Vertical Lines, Curve Lines, Angles.
2. Drawing Different Geometrical Forms.

UNIT-II**Scale Drawing**

1. Understanding Scale –Metric and Foot and Inch.
2. Reduction and Enlargement.
3. Drawing Geometrical Forms with Measurements.

UNIT III**Free Hand Lettering and Scaled Lettering****UNIT IV****Free Hand Sketching of Different Interior Accessories & Interior Exterior Existing Spaces.**

NOTE: Sheets and File to be prepared on the above topics

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FURNITURE DESIGN-I

Paper Code: APVID-405
Paper: Furniture Design -I

L	P/D	C
2	2	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives: To create ability to understand furniture design and to draw and render the furniture.

UNIT-I**Introduction to Development and Usage of Furniture.****UNIT-II****Importance of Furniture in Relation to Interiors.****UNIT-III****Free Hand Sketches of Residential Furniture and Human.**

1. Bed Room Furniture.
2. Living Room Furniture.
3. Children Room Furniture.
4. Dining Room Furniture.

UNIT-IV**Ink and Colour Rendering of Residence Furniture Pieces.****NOTE:**

Furniture to be drawn free hand on sheets and file is to be prepared collecting different designs of residence furniture.

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MATERIAL SPECIFICATION

Paper Code: APVID-407
Paper: Material Specification

L	P/D	C
3	0	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives: To gain knowledge of basic building material and their usage.

UNIT-I**Introduction to Various Basic Building Materials.**

1. Bricks, Cement, Sand, Steel, etc.

UNIT-II**Introduction to Building Components.****UNIT-III****Introduction to Different Materials Used in Interior Design.**

1. Wall finishes-Plastering and painting.
2. Floor finishes-Tiles

UNIT-IV**Introduction to different types of Timber & Metals Used in Interiors and Furniture Design**

NOTE: Collecting samples and preparing file.

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BASIC DESIGN-II

Paper Code: APVID-402
Paper: Basic Design-II

L	P/D	C
2	2	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives: To develop skills for understanding of color and its application in sketching of Interior spaces.

UNIT-I**Introduction to Colours:**

1. Primary, Secondary, Tertiary Colours
2. Colour Wheel
3. Role Of Colours In Interiors

UNIT-II**Compositions in Colours and Ink**

1. Use of lines, Geometrical shapes.
2. Forms from nature & own surroundings.

UNIT III**Patterns**

1. Shapes derived from nature & surroundings to create motives & compositions
2. Different Textures
3. Use of different color schemes

UNIT IV**Sketching and Rendering**

1. Interior Accessories And Furnishings In Different Medium

NOTE-Sheets and file is to be prepared on the above topics

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GRAPHIC PRESENTATION-II

Paper Code: APVID-404
Paper: Graphic Presentation-II

L	P/D	C
2	2	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives: To develop skills in drawing and drafting.

UNIT-I**Lettering**

1. Measured And Free Hand Decorative Lettering in Pencil, Ink & Color
2. Lettering 7:5,5:4

UNIT-II**Architectural Symbols**

1. Various architectural symbols and usage in drawing.
2. Sheet presentation.

UNIT-III**Drawing**

1. Drawing 2D and 3D geometrical objects.

UNIT-IV**Plan and Elevation**

1. Understanding Drawing Plan and Elevation of different Geometrical forms and objects.

NOTE: Sheets to be prepared on the above topics.

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FURNITURE DESIGN-II

Paper Code: APVID-406
Paper: Furniture Design-II

L	P/D	C
2	2	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives: To get the knowledge about the furniture used in different materials according to Anthropometric data.

UNIT-I**Free Hand Sketches**

1. Furniture used in residential & commercial Interiors such as office ,shops and Restaurants

UNIT-II**Anthropometric Sizes**

1. Furniture used in Residential & commercial interiors

UNIT-III**Material and Hardware Used in Residence Furniture****UNIT-IV****Scale Drawing**

1. Bed room & Living room furniture
2. Office & Shop furniture

NOTE: Sheets and File to be prepared on the above topics.

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INTERIOR DESIGN**Paper Code: APVID-408****Paper: Interior Design**

L	P/D	C
2	2	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

*Objectives: To develop Design concepts***UNIT-I****Design:**

1. Definition of Design, arrangement and composition.
2. Introduction to elements and principles of Design.
3. Introduction to History & Indian culture
4. Introduction to period and contemporary furniture in Interior.

UNIT-II**Scaled Drawing**

1. Drawing single room to scale.
2. Drawing Plan and Elevations of single room.
3. Understanding placement of furniture in room.

UNIT-III**Accessories and Furnishings**

1. Sketches of different accessories and furnishings used in interiors.

NOTE: Sheet and file to be prepared on the above topics.**Text Book(s):**

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**BACHELOR OF VOCATION
INTERIOR DESIGN
FIRST SEMESTER EXAMINATION
(LEVEL-V)**

Paper Code	Paper ID	Paper	L	T/P	S/D	Credits
THEORY PAPERS						
APVID-501		Applied Mathematics for Interior Design	3	0	0	3
ETVHS-519		Communication Skills (Common to all disciplines)	2	1	0	3
GENERAL ELECTIVE-I (Select any one)						
ETVHS-513		Human Values & Professional Ethics	2	1	0	2
APVID-505		Fundamental of Computers	3	0	0	3
ETVHS-517		Personality Development & Behavioral Science	3	0	0	3
OPEN ELECTIVE-I (Select any one)						
APVID-507		Workshop (Wood & Metal)	0	2	0	2
APVID-509		Market Survey	0	2	0	2
APVID-511		Sketching	0	2	0	2
PRACTICAL/VIVA VOCE/STUDIO						
APVID-551		Basic Design Source	2	0	6	5
APVID-553		Fundamentals of Interior Graphics	1	0	4	3
APVID-555		Furniture Design-I	1	0	4	3
APVID-557		Materials & Finishing Techniques	1	2	0	3
APVID-559		History of Interior Furniture	1	2	0	3
APVID-561		Furnishing & Fittings	1	2	0	3
TOTAL			15	10	14	31

Note –

03 hrs per week are kept for outdoor visits as per the requirement of the above subject which will include site visits, market survey, visit to various malls, exhibitions, art galleries & museums etc. The same shall be reflected in the time table.

Training/Interior Design Project -I

The students are advised to undergo two weeks in-house training during winter break and should submit project work for evaluation during the second semester

****General Elective –II (Select any One):**

NCC, NSS, YOGA, Sports, Community Services, ECO Club

Note: The student can opt to take General Elective-II during the first to fifth semesters and can earn credits and /or certificate as per the requirements of the course opted for during the fifth semester. *The camps or classes for the said programme can be held either during weekend/holidays or winter/summer vacations. If in case, the classes are held during Saturday /Sunday then faculty should be given off in lieu of Saturday/Sunday.* Those students who complete General Electives-II shall be given certificate if they opt out of the programme taking Diploma/Advanced Diploma and credits will be posted in 5th Semester for B.Voc Degree students.

Note:

It is very important to decide the General Elective(s), Core Elective(s) and Open Elective(s) to be offered in the next semester well before the completion of current semester. General/Core and/or Open Elective Paper(s) will be floated, if about 50% (Not less than 1/3rd) of the total students opt for the same in each case.



**BACHELOR OF VOCATION
INTERIOR DESIGN
SECOND SEMESTER EXAMINATION
(LEVEL-V)**

Paper Code	Paper ID	Paper	L	T/P	S/D	Credits
THEORY PAPERS						
APVID-502		Applied Physics for Interiors	2	0	0	2
ETVEN-502		Environmental Science (Common to all discipline)	3	0	0	3
OPEN ELECTIVE-II (Select any one)						
APVID-504		Workshop-II (Wood & Metal)	0	2	0	2
APVID-506		Market Survey-II	0	2	0	2
APVID-508		Sketching-II	0	2	0	2
PRACTICAL/VIVA VOCE/STUDIO						
ETVEN-552		Environmental Science Lab / Field Work	0	2	0	2
APVID-552		Interior Design-I	1	0	4	3
APVID-554		Display Design-I	1	0	4	3
APVID-556		Interior Graphics-I	0	0	4	2
APVID-558		Furniture Design-II	1	0	4	3
APVID-560		History of Interior Furniture-II	1	1	0	2
APVID-562		Interior Construction & Structures-I	1	0	4	3
APVID-564		Interior Project-I (Minor)	0	0	0	6
TOTAL			10	05	20	31

Note –

04 hrs per week are kept for outdoor visits as per the requirement of the above subject which will include site visits, market survey, visit to various malls, exhibitions, art galleries & museums etc. The same shall be reflected in the time table.

Training/Interior Design Project –II

The students are advised to undergo four weeks training during summer break and should submit project work for evaluation during the third semester.

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APPLIED MATHEMATICS FOR INTERIOR DESIGN

Paper Code: APVID-501	L	T/P	S/D	C
Paper: Applied Mathematics for Interior Design	3	0	0	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objective & Pre-requisite: The objective of this subject are to ensure that students whatever their mathematical background, they must acquire the knowledge which help them in calculation in Design, Construction, Estimation & Budgeting.

UNIT-I:

Trigonometry: [25%]; Measurement of angles in degree and radian and their conversion. Trigonometrical ratios and their relations, ratios of allied angles (without proof), sum and differences formulae and their applications, product formulae, from product to sum difference and vice versa, multiple and sub multiple angles (2A,A/2).

Matrices: [25%]; Definition and types of matrices, addition, subtraction, and multiplication of matrices, inverse of a 3 x 3 matrix by adjoin matrix method, solution of linear equations containing upto 3 unknown only.

UNIT-II:**Co-ordinate Geometry: [25%]**

1. Point- Cartesian and polar co-ordinates and their conversion, distance b/w two points, internal and external division formula, co-ordinates of centroid, in center and circum-centre, conditions of co-linearity of points.
2. Straight line- Equation of a straight line in various standard forms, angle b/w straight lines, perpendicular distance formulae.
3. Circle- Equation of circle in standard and general form, finding the equation of circle when its centre and radius are given & when any 3 points on it are given.
4. Conics – Definition of conics, parabola, ellipse and hyperbola and their standard equation. Finding the equation of parabola when its focus and directrix or focus and vertices are given, finding the equation of an ellipse or hyperbola when focus, directrix and eccentricity are given. Given the standard equation of conic to find its focus, directrix, vertex, axis, eccentricity and the length of latus rectums.

UNIT-III:

Centre of Gravity: Definition, Calculation of CG of plane figures, like **I, T, L.C, O** hallow and Box sections.

Moment of Inertia (MOI): Definition, calculation of CG & MOI of plane figures about the principal axes e.g. rectangle, triangle & circle. Parallel axes theorem, Perpendicular axes theorem.

UNIT-IV:

Algebra: Menstruation - Area of plane figure:-

- Triangle
- Circle
- Rectangle
- Parallelogram

Calculation of volume and surface area of a right rectangular prism:

- Pyramid
- Cone
- Cylinder
- Sphere and area of irregular figures.

Arithmetic and Geometrical Progression – Definition and simple problems.

Text Book(s):

- [T1] Applied Mathematics by R.D. Sharma
 [T2] Plane Trigonometry by S.L. Loney

Reference Book(s):

- [R1] Applied Maths – Dr. Niraj Pant, King India Publication
 [R2] Applied Maths – H.K. Dass, C.B.S. Publication

COMMUNICATION SKILLS
(Common to all disciplines)

Paper Code: ETVHS-519
Paper: Communication Skills

L	T/P	S/D	C
2	1	0	3

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives and Pre-requisites: Students should have studied General English up to secondary level and the subject aims at developing communication skills in writing, speaking as well as body language.

Learning Outcomes: The students should be able to communicate effectively to his/her superiors as well as juniors at work place in his/her professional field.

UNIT-I

Recognizing and Understanding Communication Styles: What is Communication?, Passive Communication, Aggressive Communication, Passive-Aggressive Communication, Assertive Communication, Verbal and Non Verbal Communication, Barriers and Gateways to Communication.

[T1, T2][No. of Hrs. 08]

UNIT-II

Listening Skills: Types of Listening (theory /definition), Tips for Effective Listening Academic Listening-(lecturing), Listening to Talks and Presentations, Basics of Telephone communication

Writing Skills: Standard Business letter, Report writing, Email drafting and Etiquettes, Preparing Agenda and writing minutes for meetings, Making notes on Business conversations, Effective use of SMS, Case writing and Documentation.

[T1, T2][No. of Hrs. 12]

UNIT-III

Soft Skills: Empathy (Understanding of someone else point of view), Intrapersonal skills, Interpersonal skills, Negotiation skills, Cultural Aspects of Communication.

[T1, T2][No. of Hrs. 10]

UNIT-IV

Group Communication: The Basics of Group Dynamics, Group Interaction and Communication, How to Be Effective in Groups, Handling Miscommunication, Handling Disagreements and Conflicts, Constructive Criticism.

[T1,T2][No. of Hrs. 12]

Text Book(s):

[T1] Mckay, M., Davis, M. & Fanning, P.(2008). Messages: The Communication Skills Book, New Harbinger Publications

[T2] Perkins, P.S., & Brown, L. (2008). The Art and Science of Communication: Tools for effective communication in the workplace, John Wiley and Sons

Reference Books:

[R1] Krizan et al (2010). Effective Business Communication, Cengage Learning.

[R2] Scot, O. (2009). Contemporary Business Communication, Biztantra, New Delhi.

[R3] Chaney & Martin (2009). Intercultural Business Communication, Pearson Education

[R4] Penrose et al (2009). Business Communication for Managers, Cengage Learning.

URBAN TRANSPORTATION REQUIREMENT & PLANNING
(Open Elective-I)

Paper Code: ETVAE-507

Paper: Urban Transportation Requirement & Planning

L	T/P	C
3	0	3

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives and Pre-requisites: Student should have studied subjects such as Physics, General Science and Mathematics. This subject provides knowledge of different principals of electrical engineering, basic idea of different electronic components, semi conducting devices, transducers and digital electronics used in the industry. The objective of this subject is to make the student understand the transportation requirement in the urban areas and to be aware of the basics of planning. The student should have basic knowledge about street, road and highways.

Learning Outcomes: The student after studying this subject should be able to plan the transportation and should be able to design the roads or pathways accordingly.

UNIT-I

Introduction & Urban Transportation System Planning: Role of transportation in urban development, Transportation problems in urban areas, Purpose of transportation planning, Transportation planning process and factors affecting it, Travel demand and factors affecting it, Urban transport forecasting.

[T1][No. of Hrs. 10]

UNIT II

Transportation Plan Preparation: Definitions: corridor, corridor traffic forecasting, corridor traffic study, count, segment, point, segment capacity, screen line, Corridor identification, Mass transit system, Urban mass rapid transit system, Rail based transit – Metro, Light rail transit system (LRT), Mono rail, Sky rail, Road based transit – Bus rapid transit system (BRTS), Electric trolley bus, commuter Bus / City Bus.

[T1][No. of Hrs. 12]

UNIT-III

Traffic Management and Control: Traffic Management measures; Arterial Management; Traffic Signs - principles, types and design considerations, road markings; Traffic Signals - types, optimal cycle length and signal settings, warrants; Regulation of Traffic - speed regulation, regulation of vehicle, parking regulations.

[T1][No. of Hrs. 11]

UNIT-IV

Transport and Environment: Traffic noise - factors affecting noise, abatement measures, standards; air pollution - factors affecting air pollution levels, abatement measures, standards; Traffic Safety- accident reporting and recording systems, factors affecting road safety; Transport Planning for Target groups - Children, adults, handicapped and women; Norms and Guidelines for highway landscape.

[T1][No. of Hrs. 12]

Text Book(s):

[T1] Kadiyali, L. R., "Traffic Engineering and Transportation Planning", Khanna Publishers, New Delhi

Reference Books:

- [R1] Hutchison, B. G., "Introduction to Transportation Engineering and Planning", Tata McGraw-Hill Pvt. Ltd.
- [R2] Morlok, Edward K., "Introduction to Transportation Engineering and Planning", Tata McGraw-Hill Pvt. Ltd.
- [R3] Vuchic, Vukan R., "Urban Public Transit System and Technology", PHI Learning, New Delhi
- [R4] Dickey, John W., "Metropolitan Transportation Planning", Tata McGraw-Hill Pvt. Ltd

HUMAN VALUES & PROFESSIONAL ETHICS
(General Elective-I)

Paper Code: ETVHS-513

Paper : Human Values & Professional Ethics

L	T/P	C
2	1	2

Non-University Examination Scheme (NUES)

Note: There will be no End-Term External University Examination. Marks are to be given on the basis of two internal sessional test of 30 marks each and one final Viva-voce project report Examination of 40 marks.

Objectives:

This introductory course input is intended

- a. To help the students appreciate the essential complementarity between 'VALUES' and 'SKILLS' to ensure sustained happiness and prosperity which are the core aspirations of all human beings.*
- b. To facilitate the development of a holistic perspective among students towards life, profession and happiness, based on the correct understanding of the Human reality and the rest of the Existence. Such a Holistic perspective forms the basis of value-based living in a natural way.*
- c. To highlight plausible implications of such a Holistic understanding in terms of ethical human conduct, trustful and mutually satisfying human behaviour and mutually enriching interaction with Nature.*

UNIT-1: Introduction to Value Education

1. Understanding the need, basic guidelines, content and process for value education.
2. Basic Human Aspirations: Prosperity and happiness
3. Methods to fulfil the human aspirations – understanding and living in harmony at various levels.
4. Practice Session – 1.

[T1], [R1], [R4][No. of Hrs. 07]

UNIT-2: Harmony in the Human Being

1. Co-existence of the sentient "I" and the material body–understanding their needs–Happiness & Conveniences.
2. Understanding the Harmony of "I" with the body–Correct appraisal of physical needs and the meaning of prosperity.
3. Programme to ensure harmony of "I" and Body-Mental and Physical health and happiness.
4. Harmony in family and society: Understanding Human-human relationship in terms of mutual trust and respect.
5. Understanding society and nation as extensions of family and society respectively.
6. Practice Session – 02

[T2], [R1],[R2][No. of Hrs. 08]

UNIT-3: Basics of Professional Ethics

1. **Ethical Human Conduct** – based on acceptance of basic human values.
2. **Humanistic Constitution and universal human order** – skills, sincerity and fidelity.
3. **To identify the scope and characteristics of people** – friendly and eco-friendly production system, Technologies and management systems.
4. Practice Session – 03.

[T1],[R4]][No. of Hrs. 07]

UNIT-4: Professional Ethics in practice

1. **Profession and Professionalism** – Professional Accountability, Roles of a professional, Ethics and image of profession.
2. **Engineering Profession and Ethics** - Technology and society, Ethical obligations of Engineering professionals, Roles of Engineers in industry, society, nation and the world.
3. **Professional Responsibilities** – Collegiality, Loyalty, Confidentiality, Conflict of Interest, Whistle Blowing
4. Practice Session – 04

[T1], [T2], [T3], [R3][No. of Hrs. 08]

Text Books:

[T1] Professional Ethics, R. Subramanian, Oxford University Press.

[T2] Professional Ethics & Human Values: [Subhash Bhalchandra Gogate](#), Vikas publication

[T3] Professional Ethics & Human Values: Prof. D.R. Kiran, TATA Mc Graw Hill Education.

[T4] Professional Ethics & Human Values: S.B. Srivastha, SciTech Publications (India) Pvt. Ltd. New Delhi.

References:

- [R1] Success Secrets for Engineering Students: Prof. K.V. SubbaRaju, Ph.D., Published by SMARTstudent.
- [R2] Ethics in Engineering Mike W. Martin, Department of Philosophy, Chapman University and Roland Schinzinger, School of Engineering, University of California, Irvine.
- [R3] Human Values: A. N. Tripathy (2003, New Age International Publishers)
- [R4] Value Education website, <http://www.universalhumanvalues.info>[16]
- [R5] Fundamentals of Ethics, Edmond G. Seebauer & Robert L. Barry, Oxford University Press.
- [R6] Human Values and Professional Ethics: R. R. Gaur, R. Sangal and G. P. Bagaria, Eecl Books (2010, New Delhi). Also, the Teachers' Manual by the same author.

***PRACTICAL SESSIONS OF 14 HOME ASSIGNMENTS** will be followed by the students pursuing this paper. (Ref: Professional Ethics & Human Values: S.B. Srivastava, SciTech Publications (India) Pvt. Ltd. New Delhi.)

CONTENT OF PRACTICE SESSION

Module 1: Course Introduction – Needs, Basic Guidelines, Content and Process of Value Education

PS-1: Imagine yourself in detail. What are the goals of your life? How do you set your goals in your life? How do you differentiate between right and wrong? What have been your achievements and shortcoming in your life? Observe and analyze them.

Expected Outcome:

The students start exploring themselves; get comfortable to each other and to the teacher and start finding the need and relevance for the course.

PS-2: Now a days there is lot of voice about techno-genie maladies such as energy and natural resource depletion, environmental Pollution, Global Warming, Ozone depletion, Deforestation, etc. – all these scenes are man-made problems threatening the survival of life on the earth – what is root cause of these maladies and what is the way out in your opinion?

On the other hand there is rapidly growing danger because of nuclear proliferation, arm race, terrorism, criminalization of politics, large scale corruption, scams, breakdown of relationships, generation gap, depression and suicidal attempts, etc - what do you think the root cause of these threats to human happiness and peace – what could be the way out in your opinion?

Expected Outcome:

The students start finding out that technical education with study of human values can generate more solutions than problems They also start feeling that lack of understanding of human values is the root cause of all the problems and the sustained solution could emerge only through understanding of human values and value based living. Any solutions brought out through fear, temptation or dogma will not be sustainable.

PS-3:1. Observe that each one of us has Natural Acceptance, based on which one can verify right or not right for him. Verify this in case of following;

- a) What is naturally acceptable to you in relationship – feeling of respect or disrespect?
- b) What is naturally acceptable to you - to nurture or to exploit others? Is your living the same as your natural acceptance or different?

2. Out of three basic requirements for fulfillment of your aspirations, right understanding, relationship and physical facilities, observe how the problems in your family are related to each. Also observe how much time and efforts you devote for each in your daily routine.

Expected Outcome:

1. The students are able to see that verification on the basis of natural acceptance and experiential validation through living is the only way to verify the right or wrong, and referring to any external source life text or instrument or any other person cannot enable them to verify with authenticity, it will only develop assumptions.
2. The students are able to see that their practice in living is not in harmony with their natural acceptance at most of the time, and all they need to do is to refer to their natural acceptance to remove this disharmony.
3. The students are able to see that lack of right understanding leading to lack of relationship is the major cause of the problems in their family and the lack of physical facilities in most of the cases;

while they have given higher priority to earning of physical facilities in their life ignoring relationship and not being aware that right understanding is the most important requirement for any human being.

Module 2: Understanding harmony in human being – Harmony in myself!

PS-4: Prepare the list of your desires. Observe whether the desires are related with self “I” or body. If it appears to be related with the both, see which part of it is related to self “I” and which part is related to body.

Expected Outcome:

The students are able to see that they can enlist their desires and the desires are not vague, also they are able to relate their desires to “I” and “body” distinctly. If, any desire appears to be related with both, they are able to see that feeling is related to “I” while the physical facility is related to the body. They are also able to see that “I” and “body” are two realities, and most of their desires are related to “I” and not with the “Body”; while their efforts are mostly connected on the fulfillment of the need of the body assuming that it will meet the needs of “I” too.

PS-5:

1. {A}. Observe that any physical facilities you use, follows the given sequence with time; Necessary and tasteful – unnecessary & tasteful – unnecessary & tasteless.
{B}. In contrast, observe that any feelings in you are either naturally acceptable or not acceptable at all. If, naturally acceptable, you want it continuously and if not acceptable, you do not want it at any moment.
2. List Down all your activities. Observe whether the activity is of “I” or of “body” or with the participation both “I” and “body”.
3. Observe the activities with “I”. Identify the object of your attention for different moments (over a period say 5 to 10 minute) and draw a line diagram connecting these points. Try to observe the link between any two nodes.

Expected Outcome:

1. The students are able to see that all physical facilities they use are required for limited time in a limited quantity. Also they are able to see that cause of feeling, they want continuity of the naturally acceptable feelings and they do not want feelings which are not naturally acceptable eve for a single moment.
2. The students are able to see that activities like understanding, desires, thoughts and selection are the activities of “I” only; the activities like breathing, palpitation of different parts of the body are fully the activities of the body. With the acceptance of “I”, while activities they do with their sense organs like hearing through ears, seeing through eyes, sensing through touch, tasting through tongue and smelling through nose or the activities they do with their work organs like hands, legs, etc. are such activities that require the participation of both “I” and “body”
3. The students become aware of their activities of “I” and start finding their focus of attention at different moments. Also they are able see that most of their desires are coming from outsides (through preconditioning or sensation) and are not based on their natural acceptance.

- PS-6:**
1. Chalk out the program to ensure that you are responsible to your body – for the nurturing, protection and right utilization of the body.
 2. Find out the plants and shrubs growing in and your campus. Find out their use for curing different diseases.

Expected Outcome:

The students are able to list down activities related to a proper upkeep of the body and practice them in their daily routine. They are also able to appreciate the plants wildly growing in and around the campus which can be beneficial in curing the different diseases.

Module 3: Understanding harmony in the family and society - Harmony in Human – Human relationship

PS-7: Form small groups in the class and in that group initiate the dialogue and ask the eight questions related to trust. The eight questions are-

S.No.	Intention (Natural Acceptance)	S.No.	Competence
1.a.	Do I want to make myself happy?	1.b.	Am I liable to make myself always Happy?
2.a.	Do I want to make the other happy?	2.b.	Am I liable to make the other always happy?
3.a.	Does the other want to make him happy?	3.b.	Is the other able to make him always happy?
4.a.	Does the other want to make me happy? What is answer?	4.b.	Is the other able to make me always happy? What is answer?

Let each student answer the question for himself and everyone else. Discuss the difference between intention and competence.

Expected Outcome:

The students are able to see that the first four questions are related to our natural acceptance i.e. intention and the next four to our competence. They are able to note that the intention is always correct, only competence is lacking. We generally evaluate ourselves on the basis of our intention and other on the basis of their competence. We seldom look at our competence and other's intention as a result we conclude that I am a good person and other is a bad person.

PS-8:

1. Observe that on how many occasions you are respecting your related ones (by doing the right evaluation) and on how many occasion you are disrespecting by way of under evaluation, over evaluation or otherwise evaluation.
2. Also observe whether your feeling of respect is based on treating the other as yourself or on differentiations based on body, physical facilities or beliefs.

Expected Outcome:

The students are able to see that respect is right evaluation and only right evaluation leads to fulfilment of relationship. Many present problems in the society are an outcome of differentiation (lack of understanding of respect) like gender biasness, generation gap, caste conflicts, class struggle, and domination through poor play, communal violence, and clash of isms and so on so forth.

All these problems can be solved by realizing that the other is like me as he has the same natural acceptance, potential and program to ensure a happy and prosperous life for him and for others though he may have different body, physical facilities or beliefs.

PS-9:

1. Write a note in the form of a story, poem, skit, essay, narration, dialogue, to educate a child. Evaluate it in a group.
2. Develop three chapters to introduce "social science", its needs, scope and content in the primary education of children.

Expected Outcome:

The students are able to use their creativity for educating children. The students are able to see that they can play a role in providing value education for children. They are able to put in simple words the issues that are essential to understand for children and comprehensible to them. The students are able to develop an outline of holistic model for social science and compare it with the existing model.

Module 4: Understanding harmony in the nature and existence – Whole existence as Co – existence -

PS-10: Prepare the list of units (things) around you. Classify them into four orders. Observe and explain the mutual fulfilment of each unit with other orders.

Expected Outcome:

The students are able to differentiate between the characteristics and activities of different orders and study the mutual fulfilment among them. They are also able to see that human beings are not fulfilling to their orders today and need to take appropriate steps to ensure right participation (in term of nurturing, protection and right utilization) in the nature.

PS-11:

Scheme and Syllabi for B. Voc. (Interior Design), w. e. f. batch 2015-16, approved in the BOS of USAP held on 14th August, 2015 & AC Sub Committee Meeting of USAP held on 11th Sept., 2015.

1. Make a chart for the whole existence. List down different courses of studies and relate them to different or levels in the existence.
2. Choose any one subject being taught today. Evaluate and suggest suitable modifications to make it appropriate and holistic.

Expected Outcome:

The students are confident that they can understand the whole existence; nothing is a mystery in this existence. They are also able to see the interconnectedness in the nature, and point out how different courses of study relate to the different units and levels. Also they are liable to make out how these courses can be made appropriate and holistic.

Module 5: Implication of the above Holistic Understanding of Harmony at all Levels of Existence.

PS-12: Choose any two current problem of different kind in the society and suggest how they can be solved on the basis of the natural acceptance of human values. Suggest the steps you will take in present conditions.

Expected Outcome:

The students are liable to present sustainable solutions to the problem in society and nature. They are also able to see that these solutions are practicable and draw road maps to achieve them.

PS-13:

1. Suggest ways in which you can use your knowledge of engineering / technology / management for universal human order from your family to world family.
2. Suggest one format of humanistic constitution at the level of nation from your side.

Expected Outcome:

The students are able to grasp the right utilization of their knowledge in their streams of technology / engineering / management to ensure mutually enriching and recyclable production systems.

PS-14: The course is going to be over now. Evaluate your state before and after the course in terms of-

- Thoughts
- Behavior
- Work and
- Realization

Do you have any plan to participate in the transition of the society after graduating from the institute? Write a brief note on it.

Expected Outcome:

The students are able to sincerely evaluate the course and share with their friends. They are also able to suggest measures to make the course more effective and relevant. They are also able to make use of their understanding in the course for happy and prosperous society.

GURU GOBIND SINGH
INDRAPRASTHA
UNIVERSITY

FUNDAMENTAL OF COMPUTERS
(General Elective-I)

Paper Code: APVID-505
Paper: Fundamental of Computers

L	T/P	S/D	C
3	0	0	3

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: In present scenario, the advertising agencies, publishing houses and other art studios, computer knowledge and software learning are essential requirement for the graphic designing/art work purposes

Outcomes: The students should be familiarized with the use of computer in applied art.

UNIT-I
BASIC KNOWLEDGE

- Block diagram of computer and its working
- Components of computer
- About operating system
- Booting and installation
- File management
- Printing

UNIT-II
WORD PRECESSING

- Opening and saving documents
- Editing
- Character and paragraph editing

UNIT-III
BASIC POWER POINT PRESENTATION

- Opening and saving a slide
- Inserting picture and movie clip
- Publishing a presentation

UNIT-IV
INTERNET BROADCASTING

- Opening and saving a page
- Creating an account
- Elements of web page

Reference:-

[R1] Dummies Publication, Fundamentals of Computing

PERSONALITY DEVELOPMENT & BEHAVIORAL SCIENCE (From USMS)
(General Elective-I)

Paper Code: ETVHS-517

Paper: Personality Development & Behavioral Science

L	T/P	C
2	0	2

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

***Objectives and Pre-requisites:** Students should have studied subjects such as General languages, social studies and Moral education at school level. The objective of this subject is to prepare the students to become a good citizen and a professional useful to the society.*

***Learning Outcomes:** The knowledge of this subject will give the student a value system which will help him in taking decisions in professional and social life for the benefit of society at large.*

UNIT-I

Definition and Basics of Personality, Understanding Traits and Types of Personality, Analyzing strength and weakness (SW), Body Language

[T1, T2][No. of Hrs. 07]

UNIT-II

Business Etiquettes and Public Speaking: Business Manners. Body Language Gestures, Email and Net Etiquettes, Etiquette of the Written Word, Etiquettes on the Telephone, Handling Business Meetings; Introducing Characteristic, Model Speeches, Role Play on Selected Topics with Case Analysis and Real Life Experiences.

[T1, T2][No. of Hrs. 08]

UNIT-III

How to Make a Presentation, the Various Presentation Tools, along with Guidelines of Effective Presentation, Boredom Factors in Presentation and How to Overcome them, Interactive Presentation & Presentation as Part of a Job Interview, Art of Effective Listening.

Resume Writing Skills, Guidelines for a Good Resume, How to Face an Interview Board, Proper Body Posture, Importance of Gestures and Steps to Succeed in Interviews. Practice Mock Interview in Classrooms with Presentations on Self; Self Introduction – Highlighting Positive and Negative Traits and Dealing with People with Face to Face.

[T1, T2][No. of Hrs. 08]

UNIT-IV

Coping Management, Working on Attitudes: Aggressive, Assertive and Submissive Coping with Emotions, Coping with Stress

[T1, T2][No. of Hrs. 07]

Text Books:

- [T1] McGraw, S. J., (2008), “Basic Managerial Skills for All, Eighth Edition”, Prentice Hall of India.
 [T2] The Results-Driven Manager (2005). Business Etiquette for the New Workplace: The Results-Driven Manager Series (Harvard Results Driven Manager)

Reference Books:

- [R1] Pease, A. & Pease, B. (2006)., “The Definitive Book of Body Language”, Bantam Books.
 [R2] Scannell, E. & Rickenbacher, C. (2010)., “The Big Book of People Skills Games: Quick, Effective Activities for Making Great Impressions, Boosting Problem-Solving Skills and Improving Customer Service”, McGraw Hill Education

WORKSHOP (WOOD & METAL)
(Open Elective-I)

Paper Code: APVID-507
Paper: Workshop (Wood & Metal)

L	T/P	S/D	C
0	2	0	2

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: Objective is to have general skills and knowhow of carpentry and sheet metal works.

Outcomes: - Students gets the knowledge how the raw materials can be finished and used for the different work in furniture etc.

UNIT-I:

1. Introduction to carpentry tools and equipments.
2. Demonstration of wood working machines

UNIT-II:

1. Exercises on sawing, planning, sanding, chiseling etc.
2. Practice exercise in making important joints in wood are commonly used in furniture.

UNIT-III:

1. Introduction of the tools and equipments used for sheet metal work
2. Exercises of sheet metal work involving bending, boxing, conduit bending, soldering.

UNIT-IV:

1. Exercises on joints of sheet metal work e.g. seam, hem, grooved, lap, butt, riveting etc.
2. One simple utility article from GI sheet

Text Book(s):

- [T1] Workshop Practice by Swaran Singh
[T2] Workshop Technology by Gupta
[T3] Workshop Technology by Hazra & Chawdhry

MARKET SURVEY
(Open Elective-I)

Paper Code: APVID-509
Paper: Market Survey

L	T/P	S/D	C
0	2	0	2

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: To familiarize the students about the various materials and new materials available in the market so that they are able to give the material specifications.

Outcomes: Students gets the knowledge how the raw materials can be finished, joints and used for the different work in furniture etc.

UNIT-I:
BASIC BUILDING MATERIALS:

- Collections of basic building materials samples such as Bricks, Cement, Aggregates etc.
- Wall finishes –
- Collection of Brochures of various company in the market, rates and other relevant information's such as application advantages and disadvantages of Distemper, Paints, Wall papers etc.

UNIT-II:
WOOD & WOOD BASED PRODUCTS:

- Types of woods in markets, Rates, Company
- Laminates, Veneer, Plywood, Block board etc

UNIT – III:
UPHOLSTERY MATERIAL AND TAPESTRY:

- Types of fabric used for different types of furniture, and window treatment.
- Rates, Collection of Samples.

NOTE: Students have to prepare a project file along with the samples, rates other information.

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INDRAPRASTHA
UNIVERSITY

SKETCHING
(Open Elective-I)

Paper Code: APVID-511
Paper: Sketching

L	T/P	S/D	C
0	2	0	2

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

***Objectives & Pre-requisites:** The purpose of this subject is to develop skills of freehand sketching to enable the students to capture the impression and to express their Design ideas and concepts freehand.*

***Outcomes & Deliverables:** An understanding of the tools used in drawing. The students should have knowledge of proportions and perspective. Developing techniques of pencil drawing. Identifying the subject while sketching.*

UNIT-I

- Learning different strokes using pencils.
- Understanding of space and texture.

(Submission of Sketches)

UNIT-II

- Creating form and depth by simple shading.
- Understanding intensity, value, proportion.
- Outdoor sketching of trees and foliage in Pencil.

(Submission of Sketches)

UNIT-III

- Outdoor sketching of subjects based on Interiors.
- Sketching of Historical Buildings.

(Submission of Sketches)

UNIT-IV

- Sketch Book to be maintained by the students for regular quick sketching Interior accessories.

(Submission of Sketches)

NOTE: All the assignments done in the class will be marked for internal assessment.

Reference Book(s):

- [R1] Perspective Drawing, Milind Mulik, Jyotsna Prakashan
[R2] Sketchbook, Milind Mulik, Jyotsna Prakashan
[R3] Rendering with Pen & Ink by Hudson Manual

BASIC DESIGN SOURCE

Paper Code: APVID-551
Paper: Basic Design Source

L	T/P	S/D	C
2	0	6	5

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objective & Pre-requisite:- The objective of this course is to make students understand the various aspects such as spatial quality, design vocabulary, design principles, and design process related to the design of interiors. Moreover to develop the aesthetics and abilities to Design Residential and Commercial interiors with the help of principles and elements of design. Exercises based on principles and elements of design in the form of charts shall be given to the students.

UNIT-I:**Design:**

Definitions of Design, Arrangement, Composition.

Principles of composition-Elements and Principles.

1. Introduction to various elements of composition, line, direction, shapes, form, color, value, ones and Textures.
2. Principles of Composition
3. Repetition, Rhythm, Harmony, Unity, Balance, Dominance, Scale, Proportion, Contrast, practice exercise in composition with reference to above.
4. Designing of Murals, Paintings and Wall Paintings etc.

UNIT-II:**Colours:**

1. Terminology- Hue ,Tints and Shade, Value, Intensity, Chroma
2. Theories of Colors, Color Wheels
3. Different types of Color Schemes
4. Colour Harmony, Colour Contrast in relation o Interior Planning.
5. Psychological aspects of colour – Warm and Cool
6. Advancing & Receding colors
7. Color, Pattern and Texture and their relationship in Interiors.
8. Colour Planning and guidelines for various Interiors.

UNIT-III:**Study of Form, Pattern, Tones and Textures**

1. Factors influencing design
2. Functional and Non-functional
3. Shapes and Patterns derive from natural forms.
4. Pattern and Textures in relation to colours
5. Types of Textures and their relationship psychological; impact.
6. Textures in pencils, inks, and colour.

UNIT-IV:**Aesthetics of Interiors:**

1. Role of accessories in Interiors
2. Role of Colour, Light, Shades, and shadows in interiors.

Development of concepts in Interior Designing:

1. Preparation of scrap files for accessories, furniture and fittings
2. Simple practice exercise in their development

NOTE:

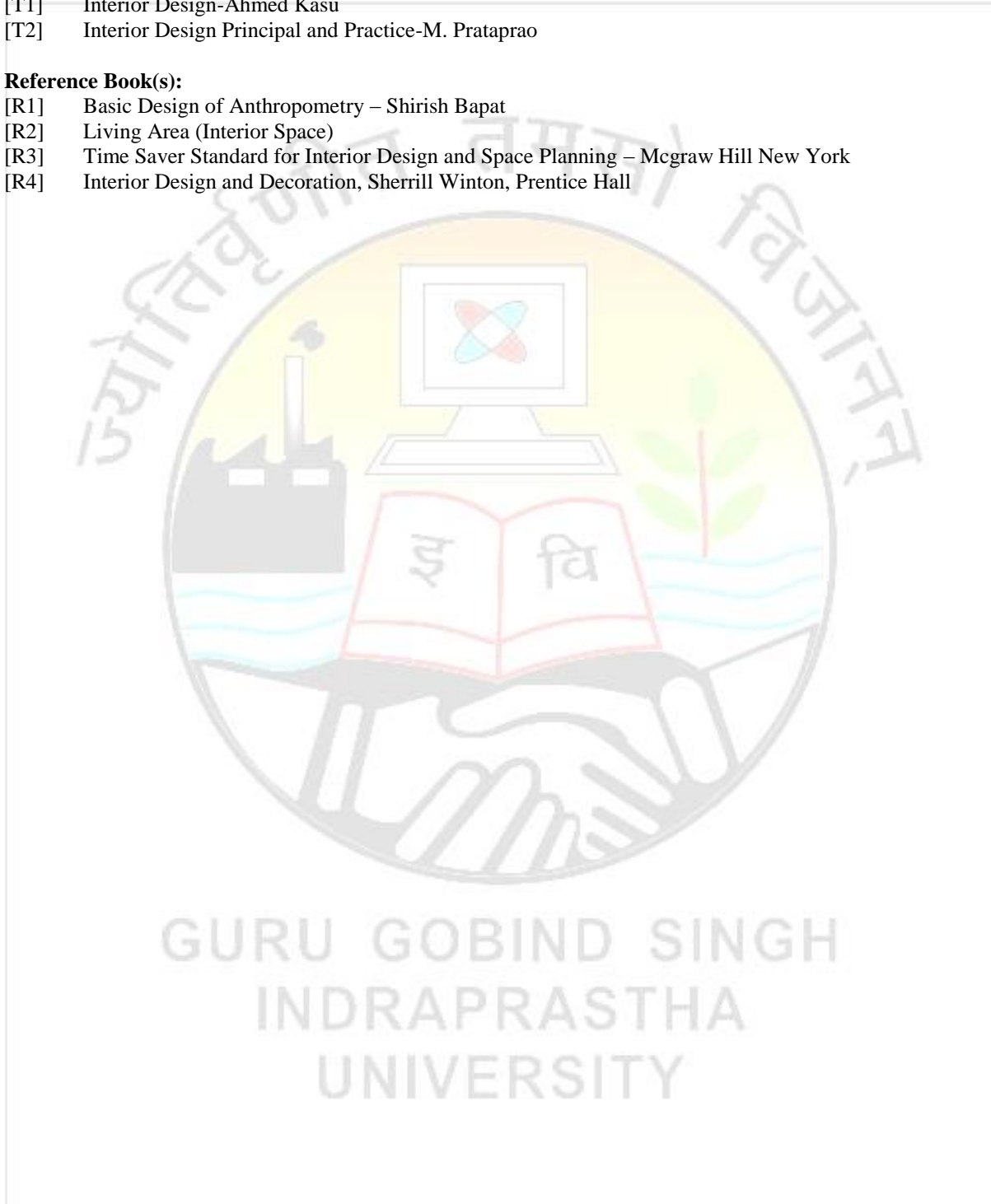
1. There will be written and drawing examination on the above: Internal assessment will be based upon the drawings, drawings charts and written assignments.
2. Drawings Charts should be prepared on each topic mentioned above

Text Book(s):

- [T1] Interior Design-Ahmed Kasu
[T2] Interior Design Principal and Practice-M. Prataprao

Reference Book(s):

- [R1] Basic Design of Anthropometry – Shirish Bapat
[R2] Living Area (Interior Space)
[R3] Time Saver Standard for Interior Design and Space Planning – Mcgraw Hill New York
[R4] Interior Design and Decoration, Sherrill Winton, Prentice Hall



FUNDAMENTALS OF INTERIOR GRAPHICS

Paper Code: APVID-553	L	T/P	S/D	C
Paper: Fundamentals of Interior Graphics	1	0	4	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objective & Pre-requisite To make students improve their sketching skills & drawing abilities To develop the skills in drawings of different interior schemes and enable the Students to read the drawings & techniques of various methods of drawings.

UNIT-I:**Instructional Objective:**

Knowledge of instruments, papers, usages of graphic in present and future in Interior Design presentation. Skills in free hand presentation – Pencils, crayons, ink pen, Brush, cut paper, marker, sketch pen etc. in different mediums.

UNIT-II:**Introduction to Free Hand Drawing:**

Free hand line on paper- horizontal and vertical lines, free hand circles, curves, parallel Etc. free hand lettering in pencil, pen, brush, sketching of various geometrical shapes, Simple objects of interiors furniture and accessories, human forms, animals, interior Views.

UNIT-III:**Skills in scaled drawing (Pencil and Pen)**

1. Knowledge of use of engineering scales- metric, foot and inches.
2. Reduction and enlargement
3. Physical measurements- exercises of different interior objects
4. Simple drafting of measured objects
5. Knowledge of 2-dimensional and 3-dimensional geometry
6. Exercise on drawing of simple plan, elevation and sections.

Projections:

1. Orthographic, Isometric, Axonometric
2. Drafting of furniture objects with projections.

UNIT-IV:**Measured Lettering**

1. Presentation techniques and standards adopted, pen, pencils and brush.
2. Understanding of Architectural graphic symbol
3. Drawing of simple layout for single room – with furniture, accessories dimensions.

NOTE:

1. There will be written and drawing examination on the above: Internal assessment will be based upon the drawings, drawings charts and written assignments.
2. Drawings Charts should be prepared on each topic mentioned above

Text Book(s):

- [T1] Drawing – A creative Process, Francis D.K. Ching, John Wiley Sons, New York
 [T2] Geometrical drawing for art students, 2nd revised edition- I.H.Morris, Orient Longman,

Reference Book(s):

- [R1] Architectural Drafting and Design, 4th Edition- Ernest R.Weidhaas, Allyn and Bacon, Boston, 1981.
 [R2] Building drawing, 3rd Edition- MG Shah, CM Kale, Tata Mcgraw – Hill Publishing, New Delhi.

FURNITURE DESIGN-I

Paper Code: APVID-555
Paper: Furniture Design-I

L	T/P	S/D	C
1	0	4	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objective & Pre-requisite: To familiarize the students about the knowledge of furniture design and various aspects involved in the Design of furniture for various spaces. Objective of this course is to develop competency to design and manufacture furniture in relation to human Forms and use it for different types of interiors.

UNIT-I:

Importance of furniture in relation to Interiors: study of shapes, forms finishes on furniture. Environmental conditions influencing furniture designs: Climatic, social, economic, availability of materials and construction techniques.

UNIT II:

Introduction to various Materials: Wood, metals used in Furniture. Types of wood based products, Methods of care and maintenance, economics of furniture, durability and usability.

UNIT-III:

Techniques of finishing the Surfaces: Wood and Metal Paints, Polishes and varnishes etc: hand painting, brush painting, roller, spray etc.

UNIT-IV:

Study of Anthropometric and ergonomic data in relation to various furniture, Diagrammatic representation through charts. An exercise has to be done where actual measurements have to be taken in relation to various furniture presentations in report form.

NOTE:

1. Furniture to be designed freehand sketch files to be made topic wise.
2. Visit to various furniture workshop exhibitions and showrooms for demonstrations and information from time to time

Text Book(s):

- [T1] The Encyclopedia of Furniture, Joseph Aronson, Crown Publishers, New York
 [T2] Time Saver Standards for Interior Design, Joseph De Chiara, McGraw Hill, New York

Reference Book(s):

- [R1] Interior Design, Francis D.K. Ching, John Wiley & Sons, New York
 [R2] Office Furniture, Susan S. Szenasy, Facts on file Inc, New York

MATERIALS & FINISHING TECHNIQUES**Paper Code: APVID-557****Paper: Materials & Finishing Techniques**

L	T/P	S/D	C
1	2	0	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objective & Pre- requisite:- To familiarize the students of Interior Design material and construction methodology. Objective of this course is to know various types of materials available in the market which are used in Execution of Interior Design projects and their application in appropriate design and area.

UNIT I:

Basic Building components and building materials – Brick, Course aggregate, fine aggregate, mortar, Cement, concrete.

UNIT-II:**Interior Finishes:**

1. Floor Finishes – Stone, Tiles, Wood etc..
2. Wall Finishes – Plaster, Paints, Stone Cladding, Wall papers. Etc
3. Ceiling Finishes – False Ceiling.

Glass:

1. Types of Glass, Treatments and usage in Interior

UNIT-III:

Metal, Plastic and PVC, its use in Interiors.

UNIT-IV:**Wood and wood products:**

1. Types of wood, seasoning, availability, cost, laminates and anti-termite treatment
2. Wood based products.

Waterproofing, Sound Proofing, Acoustics**Text Book(s):**

- [T1] Engineering Materials, by S.C. Rangwala
 [T2] Engineering Materials, by Gurucharan Singh

Reference Book(s):

- [R1] Building Construction, by Sushil Kumar
 [R2] Building Construction, by W. B. McKay
 [R3] Building Construction, by B.C. Punia

HISTORY OF INTERIOR FURNITURE**Paper Code: APVID-559****Paper: History of Interior Furniture**

L	T/P	S/D	C
1	2	0	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: To familiarize the students with the historical interior and furniture in contemporary. Objective of his course is to make the aware of historical backgrounds of World Interiors to derive designs and Patterns based on it for contemporary and Modern Interiors.

UNIT-I:**Introduction: Pre-Historic:**

Indus Valley Civilization: Methods of planning decorative features figures and forms used Cultural features and life styles.

UNIT-II:

Indian Handicrafts and Handlooms. Analysis of Hindu, Buddhist, Indo-Islamic interiors with special emphasis on decoration, ornamentation and motifs.

UNIT-III:

Different Construction technique and materials used in interiors as part of structure/decorations with reference from influence of different factors or architectural forms and decorations such as Doors, Windows, Pillars, Columns, Paneling, Ceiling, Cornice frieze, Dado, Stone inlay and architectural decoration.

UNIT-IV:

Different schools of Paintings in India. Influence of British Architectural on Indian Interiors and then gradual change in Architectural features in **“British India”**.

NOTE:

1. Preparation of reports and assignments.
2. Visits to Museums, Stores, State Emporium, Manufacturing Workshops, Exhibitions, Trade Fairs, Melas etc.

Text Book(s):

- [T1] History of Fine Arts in India and West by Edith Tomary
[T2] History of World Architecture by Sir Banister Flecher

Reference Book(s):

- [R1] Indian Architecture by Satish Kumar
[R2] Interior Design by Ahemad Kasu

FURNISHING & FITTINGS

Paper Code: APVID-561
Paper: Furnishing & Fittings

L	T/P	S/D	C
1	2	0	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: To provide the students knowledge of the Furnishing & Fittings & its implementation in Interior of any Area. Objective of this course is to make the student aware of different types of furnishings and fittings and use of the same for all type of Interiors, by doing market survey for up to date knowledge of different furnishing & Fittings.

UNIT-I:**Floors-Introduction:** Warmth, Safety, Noise, Choice and Planning.**Types of Floors:** Hard, Semi- Hard, Soft Floor.**UNIT-II:****Floor Coverings:**

1. Types of Carpets & Rugs
2. Natural fibers and Man – made fiber
3. Handmade Carpets & Lying of Carpets.
4. Machine made Carpets

UNIT-III:**Types of Windows & Treatments:**

1. Types of Curtains & Blinds
2. Fittings & Accessories required for Curtains & Blinds.
3. Valance, Swags, Tails, Tracks, Poles and other hardware materials used in curtains and blinds.

UNIT-IV:

1. Fittings & Fixtures of Bathroom & Kitchen.
2. Sanitary & Hardware

NOTE:

1. Visiting Furnishing & Fitting showrooms for collecting samples or make sketch of the same and prepare a file.
2. Taking one Interior space showing use of different types of Floor, Wall finishes, Window Treatment using the above study material.

Text Book(s):

- [T1] Interior Design Illustrated, Francis D.K. Ching
 [T2] House Book (The complete guide to Home Design) by Terence Conron.

Reference Book(s):

- [R1] Window Fashion, Charles TIRANDALL
 [R2] A.J. Metric Handbook: Editors Jan, Bilwas & Leslie fair weather.

APPLIED PHYSICS FOR INTERIORS

Paper Code: APVID-502
Paper: Applied Physics for Interiors

L	T/P	S/D	C
2	0	0	2

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: Objective of this subject is to develop the awareness in students while designing any interior who have knowledge of environment which relates to physics.

UNIT-I:

1. Units of measurement in SI system Dimensions and sue of dimensional analysis.
2. Force and Motion – Newton’s Law, Conservation of momentum, work and energy, Forms of energy, conservation of energy, stress, strain, elastic modulus.
3. Spring mass system, Vibration of bodies: amplitude, frequency and energy of Vibrations, free and forced vibrations, resonance, vibration of structural members.

UNIT II:

1. Temperature and its measurement. Liquid in glass thermometer.
2. Expansions of solids, thermal stresses, specific heat and heat capacity and concept of thermal time lag in buildings, laws of thermodynamics, principles of heat engines and refrigeration and air – conditioning system. Humidity and its control.
3. Acoustics of building and simple calculation of reverberation time, principles of acoustical modeling, sources of sound.

UNIT-III:

1. Electrical nature of matter, molecular forces- cohesive and adhesive forces-Cohesive and adhesive forces, application to water proofing.
2. Electromagnetic waves, infrared and ultraviolet rays, coated glasses and their Characteristics.
3. Light as waves, solar energy, solar cells and green house effects, colour- primary colours, colour mixing, Radiant light flux, luminous intensity, illumination, light efficiencies, standards of illumination.

UNIT-IV:

1. **Introduction to Statics:** Forces, their definition, characteristics & types, composition and resolution of Forces, moment and couple, Concepts of resultant and equilibrium of forces: Parallelogram and polygon, laws of forces, conditions of equilibrium, Lami’s Theorem.
2. **Stress & Strain Hooke’s Law:** Concept of direct forces (compression & tension), Elasticity, Plasticity etc., Hooke’s Law, modulus of Elasticity, Elastic limit stress/ strain curve for mild steel under Constant tension. Problem on Hooke’s Law and introduction to temperature stresses.

Text Book(s):

- [T1] Strength of Materials, Khurmi, R.S., S. Chand & Company, New Delhi, 2001
 [T2] Basic Applied Physics, R.K.Gaur, Dhanpant Rai and Son’s, New Delhi

Reference Book(s):

- [R1] Strength of Materials, Ramamrutham, Dhanpat Rai Publication, New Delhi, 1998.
 [R2] Applied Physics – I Dr. Niraj Pant, King India Publication, New Delhi.

ENVIRONMENTAL SCIENCE
(Common To All Disciplines)

Paper Code: ETVEN-502
Paper: Environmental Science

L	T/P	S/D	C
3	0	0	3

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

***Objective:** The objective of this course is to make students environment conscious. They will be exposed through the fundamental concepts of environment and ecosystem so that they can appreciate the importance of individual and collective efforts to preserve and protect our environment. This course must raise various questions in student's mind that how our environment is inter dependent on various factors and how human being must care for their natural surroundings.*

UNIT-I

Environmental Studies: Ecosystems, Bio-diversity and its Conservation

(i) The Multidisciplinary Nature of Environmental Studies

Definition, scope and importance of Environmental Studies, Biotic and a biotic component of environment, need for environmental awareness.

(ii) Ecosystems

Concept of an ecosystem, structure and function of an ecosystem, producers, consumers and decomposers, energy flow in the ecosystem, ecological succession, food chains, food webs and ecological pyramids. Introduction, types, characteristic features, structures and function of the following ecosystem:

- (a) Forest ecosystem
- (b) Grassland ecosystem
- (c) Desert ecosystem
- (d) Aquatic ecosystem (ponds, streams, lakes, rivers, oceans, estuaries).

(iii) Bio-diversity and its Conservation

Introduction to biodiversity - definition: genetic, species and ecosystem diversity, Bio-geographical classification of India, Value of biodiversity: Consumptive use, productive use, social, ethical, aesthetic and option values, Biodiversity at global, national and local levels, India as a mega-diversity nation, Hot-spots of biodiversity, Threats to biodiversity : Habitat loss, Poaching of wildlife, man-wildlife conflicts, rare endangered and threatened species (RET) endemic species of India, method of biodiversity conservation: *In-situ* and *ex-situ* conservation.

[T1], [R3] [No. of hrs. 12]

UNIT-II

Natural Resources: problems and prospects

Renewable and Non-renewable Natural Resources; Concept and definition of Natural Resources and need for their management

Forest resources: Use and over-exploitation, deforestation, case studies, timber extraction, mining, dams and their effects on forests and tribal people.

Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems, Water conservation, rain water harvesting, watershed management.

Mineral resources: Uses are exploitation, environmental effects of extracting and using mineral resources, case studies.

Food resources: World food problems, changes causes by agriculture and over-grazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, Urban problems related to energy, case studies.

Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

[T1], [R3] [No. of hrs. 11]

UNIT-III**Environmental Chemistry and Pollution Control****(i) Chemistry of Environment**

(a) *Green Technology*: Principles of Green technology, Zero Waste Technology, Green Chemistry & Its basic principles, Atom Economy, Green Methodologies, clean development mechanisms (CDM), concept of environmental impact assessment,

(b) *Eco-Friendly polymers*: Environmental degradation of polymers, Biodegradable, Photo-biodegradable polymers, Hydrolysis & Hydrobiodegradable, Biopolymers & Bioplastics: polylactic acid, polyhydroxybutyrate, polycaprolactone,. Concept of bioremediation.

(ii) Environmental Pollution

Definition, types, causes, effects and control measures of (a) Air pollution, (b) Water pollution, (c) Soil pollution, (d) Marine pollution, (e) Noise pollution, (f) Thermal pollution, (g) Nuclear hazards. Pollution case studies. Solid waste and its management: causes, effects and control measures of urban and industrial waste.

Chemical toxicology-Terms related to toxicity, impact of chemicals (Hg, As, Cd, Cr, Pb) on environment.

[T1], [R3] [No. of hrs. 11]

UNIT-IV**Disaster Management, Social Issues, Human Population and the Environment****(i) Disaster Management**

Disaster management: floods, earthquake, cyclone and land-slides, nuclear accidents and holocaust, *case studies*.

(ii) Social Issues, Human Population and the Environment

Sustainable development, Climate change, global warming, acid rain, ozone layer depletion, Environmental ethics: Issues and possible solutions, Consumerism and waste products, Wasteland reclamation. Population growth, problems of urbanisation, Environment Protection Act, 1986; Air (Prevention and Control of Pollution) Act, 1981; Water (Prevention and

Control of Pollution) Act, 1974; Wildlife Protection Act, 1972; Forest Conservation Act, 1980; Environmental management, system standards-ISO 14000 series.

[T1] [No. of hrs. 11]

Text Book(s):

[T1] E. Barucha, Textbook of Environmental Studies for Undergraduate Courses, Universities Press (India) Pvt. Ltd., 2005.

[T2] S. Chawla, A Textbook of Environmental Studies, McGraw Hill Education Private Limited, 2012

References Books:

[R1] G. T. Miller, Environmental Science, Thomas Learning, 2012

[R2] W. Cunningham and M. A. Cunningham, Principles of Environment Science: Enquiry and Applications, Tata McGraw Hill Publication, N. Delhi, 2003.

[R3] R. Rajagopalan, Environmental Studies: From Crisis to Cure, 2nd Edition, Oxford University Press, 2011.

[R4] A.K. De, Environmental Chemistry, New Age Int. Publ. 2012,.

[R5] A. Kaushik and C.P. Kaushik, Perspectives in Environment Studies, 4th Edition, New Age International Publishers, 2013

[R6] Environmental Engineering by Gerard Kiely, Tata McGraw-Hill Publishing Company Ltd. New Delhi, 2010.

WORKSHOP-II (WOOD & METAL)
(Open Elective-II)

Paper Code: APVID-504
Paper: Workshop-II (Wood & Metal)

L	T/P	S/D	C
0	2	0	2

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: Objective is to have general skills and knowhow of painting, polishing and metal works.

Outcomes: Students gets the knowledge how the raw materials can be finished, joints and used for the different work in furniture etc.

UNIT-I: Painting and Polishing Workshop

1. Introduction to painting materials for wood and metals
2. Exercises on the following :
 - Painting on metal and wood
 - Polishing on wall surfaces
 - Polishing of all mediums on woods

UNIT-II:

1. Preparation of various surfaces of furniture's for lacquer, matt, and melamine finish.
2. Polishing of glass and finishing treatment of plastered surfaces.

UNIT-II: Metal Workshop

1. Introduction of the tools and equipments used in fitting and welding shop
2. Simple exercises on filing, drilling and tapping

UNIT-IV:

1. Exercises of joining with the help of electric and welding and gas welding for making simple joints in metal industry.
2. Simple exercises on glass fixing.

Text Book(s):

- [T1] Workshop Practice by Swaran Singh
 [T2] Workshop Technology by Gupta
 [T3] Workshop Technology by Hazra & Chawdhry

MARKET SURVEY-II
(Open Elective-II)

Paper Code: APVID-506
Paper: Market Survey-II

L	T/P	S/D	C
0	2	0	2

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: To familiarize the students about the various materials and new materials available in the market so that they are able to give the material specifications.

Outcomes: Students gets the knowledge how the raw materials can be finished, joints and used for the different work in furniture etc.

UNIT-I:

Floor Finishes

- Types of Floor- Hard floor, Soft Floor finishing materials, rates.

UNIT-II:

Wood & Wood based Products:

- Types of woods in markets, Rates & collection of samples
- Laminates, Veneer, Plywood, Board etc

UNIT – III:

Upholstery Material and Tapestry:

- Types of fabric used for different types of furniture, and window treatment.
- Rates, Collection of Samples.

UNIT – IV:

Electrical Fitting and Fixtures:

- Collection of samples for lights fittings, Fans, Air Conditioning, switch boards.
- Rates and the company dealing.

Note: - Student have to prepare a project file along with the samples, rates other information's.

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SKETCHING-II
(Open Elective-II)

Paper Code: APVID-508
Paper: Sketching-II

L	T/P	S/D	C
0	2	0	2

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: The purpose of this subject is to develop skills of freehand sketching to enable the students to capture the action/impression. An understanding of the tools and mediums used in drawings.

Outcomes & Deliverables: An understanding of the tools and different mediums used in drawing. The students should have knowledge of proportions and perspective. Developing techniques in pencil/color/pen and ink. Identify positive and negative space while drawing.

UNIT-I:

- Learning different strokes using different in Pen and Ink.
- Understanding of space and texture.
- Rendering of Plants & Trees
(Submission of Sketches)

UNIT-II

- Outdoor sketching of trees in Pen and Ink.
- Outdoor sketching composition of trees incorporating human figure in Pen and Ink, color
- Sketching of Commercial Displays in Pen and Ink, color.
(Submission of Sketches)

UNIT-III

- Sketching of different types of furniture used
- Residential
- Commercial
- Office
- (Submission of Sketches)

UNIT 4

- Free hand sketching of Interior Spaces in different medium pencil, pen and ink, color
(Submission of Sketches)

NOTE: All the assignments done in the class will be marked for internal assessment.

Reference Book(s):

- [R1] Perspective Drawing, Milind Mulik, Jyotsna Prakashan
[R2] Sketchbook, Milind Mulik, Jyotsna Prakashan
[R3] How to be an artist in 10 steps, By Ian Sideway, Hamlyn.

ENVIRONMENTAL SCIENCE LAB/ FIELD WORK
(Common to all disciplines)

Paper Code: ETVEN-552	L	T/P	S/D	C
Paper: Environmental Science Lab/ Field Work	0	2	0	2

List of Experiments

1. Determination of pH, conductivity and turbidity in drinking water sample.
2. Determination of pH and conductivity of soil/sludge samples.
3. Determination of moisture content of soil sample.
4. Determination of Total Dissolved Solids (TDS) of water sample.
5. Determination of dissolved oxygen (DO) in the water sample.
6. Determination of Biological oxygen demand (BOD) in the water sample.
7. Determination of Chemical oxygen demand (COD) in the water sample.
8. Determination of Residual Chlorine in the water sample.
9. Determination of ammonia in the water sample.
10. Determination of carbon dioxide in the water sample.
11. Determination of nitrate ions or sulphate ions in water using spectrophotometer.
12. Determination of the molecular weight of polystyrene sample using viscometer method.
13. Base catalyzed aldol condensation by Green Methodology.
14. Acetylation of primary amines using eco-friendly method.
15. To determine the concentration of particulate matter in the ambient air using High Volume Sampler.

P.S.: For better understanding of various aspects of environment visits to local areas, depending upon easy access and importance may be planned to any nearby river, forest, grassland, hills and students should write a report based on their observations.

Suggested Books:

- [T1] [A. I. Vogel, G. H. Jeffery](#), *Vogel's Text Book of Quantitative Chemical Analysis*, Published by Longman Scientific & Technical, 5th Edition, 1989.
- [T2] dst.gov.in/green-chem.pdf (monograph of green chemistry laboratory experiments).
- [T3] S. Chawla, *Essentials of Experimental Engineering Chemistry*, Dhanpat Rai & Co., 3rd Edition, 2008.
- [T4] S. Rattan, *Experiments in Applied Chemistry*, Published by S.K.Kataria & Sons, 2nd Edition, 2003.
- [T5] W. Cunningham and M. A. Cunningham, *Principles of Environment Science: Enquiry and Applications*, Tata McGraw Hill Publication, N. Delhi, 2003.
- [T6] A. Kaushik and C. P. Kaushik, *Perspectives in Environment Studies*, 4th Edition, New Age International Publishers, 2013.

Note:- Any 10-12 Experiments out of the list may be chosen.

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INTERIOR DESIGN-I**Paper Code: APVID-552****Paper: Interior Design-I**

L	T/P	S/D	C
1	0	4	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: To introduce the basic Designing for Residential Interiors and to develop Skills required for the same. To teach proper utilization of space by understanding the client's requirements with the help of principles and Elements of Design the students are required to prepare layout plans of single room suggesting colour scheme Material specifications with plan, elevations of perspective in colour.

UNIT-I:

Planning the flow of space, negative & positive space, space requirement, usage with furniture and functional Spaces. Space distribution and factors influencing it.

Drawing required, plan and elevation of single rooms, Simple Layout plans of different rooms for different Functions. Placement of Furniture, making furniture layout, plans and elevations of rooms of different functions

UNIT-II

Bedrooms & Living Rooms: Concepts in bedroom & Living room interiors- various layout of these spaces – the use of furniture and accessories to create a good ambience – materials & finishes – lighting, colour & Texture.

Toilets: Anthropometry – various types of sanitary ware and their use – types of layouts – concepts in modern day toilet interiors – with materials & finishes –lighting, Colour, Texture & pattern.

UNIT-III

Kitchens: Work triangle, planning for activity – types of kitchen – Modular Kitchens. Materials Used for counters, shelves, worktops, washing areas.

Lighting & Colour Scheme – natural & artificial light.

UNIT-IV

Perspective in Blank & White, Colour with simple rendering visit for case study of existing interiors, Record file of these to be prepared in freehand drawing.

Note:

1. There will be written and drawing examination on the above: Internal assessment will be based upon the drawings, drawings charts and written assignments.
2. Drawings Charts should be prepared on each topic mentioned above

Text Book(s):

[T1] Interior Design – Ahmed Kasu

[T2] Interior Design Principal and Practice- M. Prataprao

Reference Book(s):

[R1] Time Saver Standard for Interior Design and Space Planning – McGraw Hill New York

[R2] Interior Design and Decoration, Sherrill Winton, Prentice Hall

[R3] Designs for 20th century Interiors – Fiona Leolie, VH Publication, London 2000

[R4] Interior Design : The New Freedom, Barbaralec Diamonstein, Rizzoli International Publications, New York, 1982.

[R5] Interior Color by Design, Jonathan Poore, Rockport Publishers, 1994

[R6] Worldwide Interiors – International Federation of Interior Architects & Designers, Rikuyo – Sha, Japan, 1987.

DISPLAY DESIGN-I**Paper Code: APVID-554****Paper: Display Design-I**

L	T/P	S/D	C
1	0	4	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: To provide the students knowledge of the Display of Commercial Interiors & its implementation. Objective of his course is to make the student learn the scope of Display and Sales Promotion with the help of Different types of Displays used in Commercial areas.

UNIT-I:

Introduction: Display of various products/commodities, display and their scopes for sale, promotion at shop, City, State, National and International levels.

Classification: Window, Wall, Island, Counter, Atrium, Mobile, Kiosk, Store & Exhibition Display.

UNIT-II

Conceptualization: Thematic Message, Seasonal Festival, State & Country oriented Display.

UNIT-III

Display Props and Display Media:

Use of Props, Publicity Media, Newspaper Ads, T.V., Hoardings, Posters, Banners, Billboards, Flyer, Panels, Logo, Trademarks.

UNIT-IV

Importance of Devices: Lettering, Colour, Lights and different types of Lights to be used for Display, Mechanical Devices used.

Devises used for Display: Panels, Stands, Blocks.

Note: Lectures, Demonstrations & visits to various shopping Area, Departmental Stores, Malls, Exhibitions etc.

Presentation: Sketch Files, Drawings with Colours to give clear concept of Theme of Different types of Display.

Text Book(s):

[T1] Designs for 20th century Interiors – Fiona Leolie, VH Publications, London.

[T2] Worldwide Interiors – International Federation of Interior Architects & Designers, Rikuyo-Sha, Japan, 1987

Reference Book(s):

[R1] Interior Design: the new Freedom, Barvaralec Diamonstein, Rizzoli International Publications, New York, 1982

[R2] Interior Colour by Design, Jonathan Poore, Rockport Publishers, 1992.

INTERIOR GRAPHICS-I

Paper Code: APVID-556
Paper: Interior Graphics-I

L	T/P	S/D	C
0	0	4	2

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: Students should acquire knowledge of the various drawings, which effectively Communicate their designs. To train the students in the field of Interior perspective drawing and sciography Presentation skills. Techniques for Construction as a tool towards effective Visualization and presentation.

UNIT-I**Measured Drawings:**

1. Techniques in skilled drafting and perspectives
2. Knowledge of standardized drawings, importance, various architectural symbols and usage in drawing.
3. Drafting of Simple Room layout plan, elevations, and sections with dimensions, showing levels, and specifications writing.

UNIT-II

Drafting of Simple Room layout plan, elevations, and sections with dimensions, showing levels, and specifications writing.

UNIT-III

Axonometric views of rooms as per the drafted layout plan, furniture, etc.

1. Perspective
2. Terminology of perspective drafting and drawing viz planes, vanishing point, cone of vision, one point, two point, birds eye view, worm's view etc.
3. Drafting perspective views – one point, two point perspectives with colours and pencil rendering, knowledge of tones and textures, colour applications and choice of different medium.

UNIT-IV

Sciography: Sciography in plan, elevation and basic sciography use in orthographic projections of simple objects and use of letterset and stencils.

Note:

1. There will be written and drawing examination on the above: Internal assessment will be based upon the drawings, drawings charts and written assignments.
2. Drawings Charts should be prepared on each topic mentioned above

Text Book(s):

- [T1] Perspective & Sciography by Shankar Mulik, Allied Publishers.
 [T2] Engineering Drawing, M.S. Kumar, D.D. Publications, Chennai

Reference Book(s):

- [R1] Geometrical drawing for Art Students, I.H. Morris, Orient Longman, Chennai
 [R2] Perspective Principles, M.G. Shah & K.M. Kale, Asia Publications, Mumbai

FURNITURE DESIGN-II

Paper Code: APVID-558
Paper: Furniture Design-II

L	T/P	S/D	C
1	0	4	3

INSTRUCTIONS TO PAPER SETTERS:**MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: To familiarize the students about the different types of furniture and use in today's time. To teach furniture design by applying joinery for furniture manufacturing in relation to specific interiors. Designing of different furniture pieces based on the different types of Interiors.

UNIT-I: Introduction of various materials used in furniture

1. Wood, metal and glass
2. Wood and wood based products : uses, availability and cost of soft and hard woods, defects, properties and structures of different woods. Different types of wood based products available e.g. plywood, board, particle board, veneer etc.

UNIT-II

Metals: Mild steel, aluminum, brass, copper, wrought iron, GI springs steel etc. sections and raw materials available; market study and rates of the same.

Glass: Sizes, Thickness, Treatments, Rates and available of sheet properties, plates, wired, laminated colored insulated, heat Resistant and block glass.

UNIT-III

Analysis of existing furniture with full size measured drawings like plan, elevation, sections and details. To understand the structure properly.

1. Joinery as applied to furniture
2. Redesigning of existing furniture keeping in mind the market and user's need

UNIT-IV

Upholstery Materials: Types of foams, springs and other materials used for upholstering
 - Techniques of upholstering and various hardware used for the same.

NOTE:

1. Free hand sketches of furniture
2. Report to be made of above items based on market study and factory visits for the same to understand the actual process.

Text Book(s):

- [T1] Butter Harry, "Do It Yourself Furniture".
 [T2] Marlo Dal Febro, "How to Build Modern Furniture".

Reference Book(s):

- [R1] Joseph Aronson, "The Encyclopedia of Furniture", Crown Publishers, New York
 [R2] Joseph De Chiara, "Time Saver Standards for Interior Design", McGraw Hill, New York

HISTORY OF INTERIOR FURNITURE-II**Paper Code: APVID-560**

L	T/P	S/D	C
1	1	0	2

Paper: History of Interior Furniture-II**INSTRUCTIONS TO PAPER SETTERS:****MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: To familiarize the students about the historical interior and furniture and use in today's time. The aim of this subject is to develop a sense of appreciation for History of Interior with Furniture in relation to Interior Planning.

UNIT-I**Occidental Interiors:**

1. Introduction to the periods of History, Cultural, Architectural & Interior Planning from ancient to middle ages, Renaissance, Modern Periods.
2. Concepts and Architectural characteristic of Ancient, Medieval, renaissance period explaining different Factors.
3. Influence ornamentations- Motifs, Furniture, Doors, Windows, Pillars, Columns, Paneling, Ceiling, Cornices, Frieze, stone or wood inlay etc.

UNIT-II**Study of period furniture and motifs:**

1. European Furniture – (Renaissance onwards)
2. Italian, Spanish, French
3. Renaissance and its influence on ornamentation and furniture.
4. English, 15-18 Century (from Tudor to Victorian) style of furniture & decoration.
5. American Colonial period furniture and Ornamentation
6. 19th and 20th Century – French, English and American Styles.

UNIT-III:

1. English, 15-18 Century (from Tudor to Victorian) style of furniture & decoration.
2. American Colonial period furniture and Ornamentation
3. 19th and 20th Century – French, English and American Styles.

UNIT-IV:**ORIENTAL**

1. Difference in basic shapes, form & motifs of East and West.
2. Wood & other materials used, familiarity with methods of GILDING, EMBOSsing, MOULDING, STENCILING
3. Demonstration of marquetry, Brass, Ivory, Mother of Pearl, Inlay, Wood etc.

NOTE:

1. Study of market trends and styles and visits to Furniture factory & showroom.
2. Project on Design & Detailing of Single residential or Commercial Furniture wood, cane and metal.

Text Book(s):

- [T1] English Furniture Style (1500 – 18) by Ralph E
 [T2] Interior Design, Francis D. K. Ching, John Wiley & Sons, New York

Reference Book(s):

- [R1] The Encyclopedia of Furniture, Joseph Aronson, Crown Publishers, New York
 [R2] Time Saver Standards for Interior Design, Joseph De Chiara, McGraw Hill, New York

INTERIOR CONSTRUCTION & STRUCTURES-I**Paper Code: APVID-562**

L	T/P	S/D	C
1	0	4	3

Paper: Interior Construction & Structures-I**INSTRUCTIONS TO PAPER SETTERS:****MAXIMUM MARKS: 75**

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks.

Objectives & Pre-requisites: To familiarize the students of Interior Design on material and construction methodology. Designing of Steel & R.C.C. Structure. Understanding the basic components of the buildings envelope for small buildings.

UNIT-I

1. Basic Building Components: Foundation till super structure
2. Stone and Brick Masonry: Types of Bonds
3. Different types of Stone Masonary

UNIT II:**Openings:**

1. Types of Arches & Lintels
2. Types of Doors & Windows
3. Types of Roofs.

UNIT III:**Introduction to Structure:**

1. RCC, Structural Elements
2. RCC Beams
3. Reinforced Beams
4. Slabs
5. Columns

UNIT IV:

1. Steel structure elements – Comparison of steel and RCC structure in building
2. Introduction to seismic zone considerations on high rise structures.
3. Introduction to design implications to disasters.

NOTE:

1. There will be written and drawing examination for Unit I & Unit II, and Unit III & IV will be theory based: Internal assessment will be based upon the drawings, drawings sheets and written assignments.
2. Drawings sheets should be prepared on each topic mentioned above

Text Book(s):

- [T1] Sushil Kumar, "Building Construction"
 [T2] S.C.Rangwala, "Engineering Materials", Charotar Publishing, Anand

Reference Book(s):

- [R1] W.B. Meckay, "Building Construction", Vol. 1, 2, 3, 4
 [R2] Francis D. K. Ching, "Building Construction Illustrated", VNR, 1975.