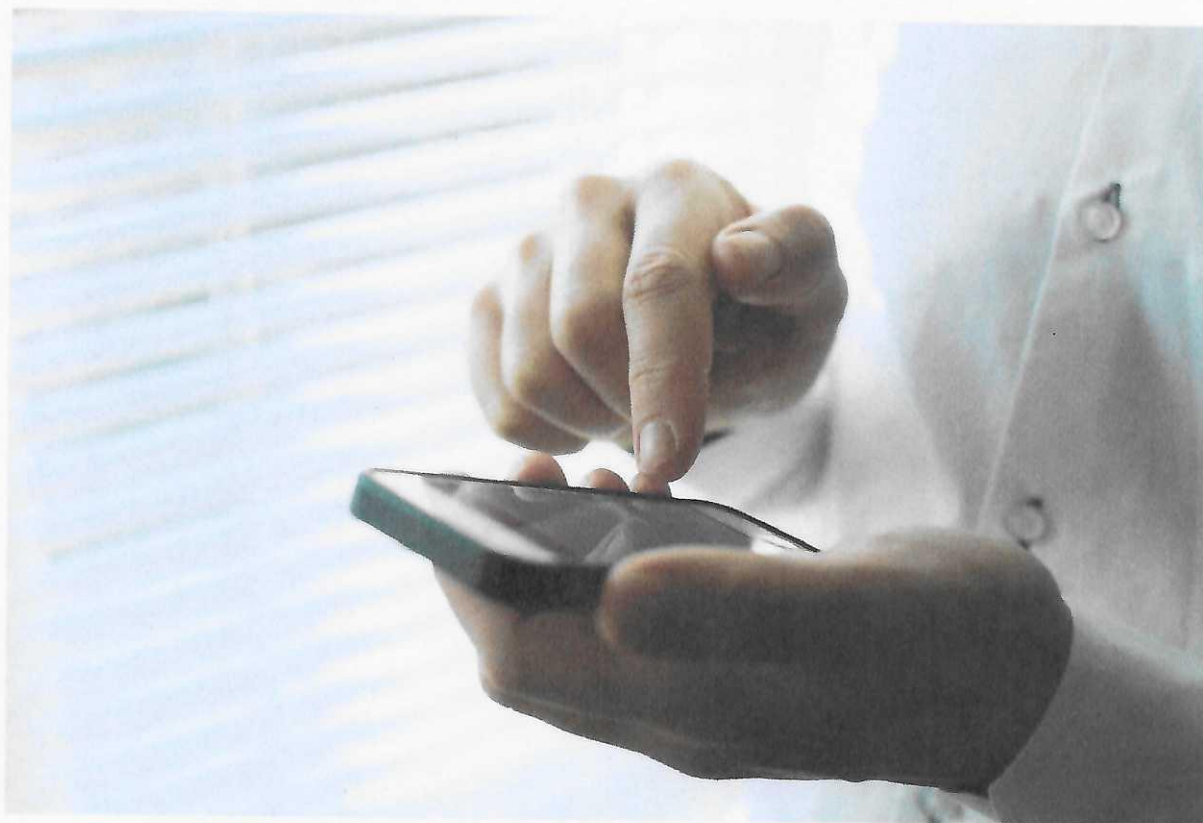


# **Syllabus for Bachelor of Occupational Therapy (BOT) Programme**



**Guru Gobind Singh Indraprastha University**

A State University established by the Govt. of NCT of Delhi

**University School of Medicine and Allied Health Sciences**

Sl. No. 13

# BACHELOR OF OCCUPATIONAL THERAPY (BOT)

## FIRST YEAR

Code No.	Paper	L	T/P	Yearly Credits
BOT 101	Anatomy	4	-	8
BOT 102	Physiology	4	-	8
BOT 103	Psychology & Sociology	4	-	8
BOT 104	Fundamentals of Occupational Therapy-I (Evaluation & Performance Components)	3	-	6
BOT 105	Fundamentals of Occupational Therapy-II (Human Development and Occupational Performance)	3	-	6
BOT 106	Biochemistry	1	-	2
<u>PRACTICAL</u>				
BOT 151	Anatomy	-	4	4
BOT 152	Physiology	-	4	4
BOT 153	Fundamentals of Occupational Therapy-I (Evaluation & Performance Components)	-	2	2
BOT 154	Fundamentals of Occupational Therapy-II (Human Development and Occupational Performance)	-	2	2
TOTAL		19	12	50

# BACHELOR OF OCCUPATIONAL THERAPY (BOT)

## SECOND YEAR

Code No.	Paper	L	T/P	Yearly Credits
BOT 201	Pathology and Microbiology	2	-	4
BOT 202	Pharmacology	2	-	4
BOT 203	Medicine & Paediatrics	2	-	4
BOT 204	General Surgery	2	-	4
BOT 205	Ergo-therapeutics-I (Therapeutic Management Tools in Occupational Therapy)	4	-	8
BOT 206	Ergo-therapeutics-II (Activity Analysis and Biomechanics) <u>PRACTICAL</u>	4	-	8
BOT 251	OT-Clinicals **	-	4	4
BOT 252	Ergo-therapeutics-I (Therapeutic Management Tools in Occupational Therapy)	-	7	7
BOT 253	Ergo-therapeutics-II (Activity Analysis and Biomechanics)	-	7	7
TOTAL		16	18	50

\*\* NUES Stands for non-university examination subjects

BACHELOR OF OCCUPATIONAL THERAPY (BOT)  
THIRD YEAR

Code No.	Paper	L	T/P	Yearly Credits
BOT 301	Neurology			
BOT 302	Orthopaedics	2	-	4
BOT 303	Psychiatry	2	-	4
BOT 304	Work Physiology & Ergonomics	2	-	4
BOT 305	Occupational Therapy in Medical Conditions	2	-	4
BOT 306	Occupational Therapy in Surgical Conditions	4	-	8
	<u>PRACTICAL</u>	4	-	8
BOT 351	OT-Clinicals **			
BOT 352	Occupational Therapy in Medical Conditions	-	4	4
BOT 353	Occupational Therapy in Surgical Conditions	-	7	7
	<b>TOTAL</b>	-	7	7
		16	18	50

\*\* NUES Stands for non-university examination subjects



BACHELOR OF OCCUPATIONAL THERAPY (BOT)  
FOURTH YEAR

Code No.	Paper	L	T/P	Yearly Credits
BOT 401	Community Rehabilitation and Disability Prevention	2	-	4
BOT 402	Research Methodology and Biostatistics	2	-	4
BOT 403	Occupational Therapy in Neurological Conditions	3	-	6
BOT 404	Occupational Therapy in Orthopaedic Conditions	3	-	6
BOT 405	Occupational Therapy in Psychiatric Conditions	2	-	4
<b><u>PRACTICAL</u></b>				
BOT 451	OT-Clinicals **	-	8	8
BOT 452	Occupational therapeutic in Neurological Conditions	-	5	5
BOT 453	Occupational therapeutic in Orthopaedic Conditions	-	5	5
BOT 454	Occupational therapeutic in Psychiatric Conditions	-	5	5
BOT 455	Project Work	-	3	3
<b>TOTAL</b>		<b>12</b>	<b>26</b>	<b>50</b>

\*\* NUES Stands for non-university examination subjects

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FIRST YEAR

ANATOMY

Course Code: BOT 101      L - 4      T/P - 0      CREDITS - 8

Course objectives:

1. Understanding of gross anatomy of various body parts.
2. Application of knowledge of anatomy to learn evaluation and application of physical therapy.
3. Major emphasis of learning is towards Musculo-skeletal, cardio-respiratory and nervous system.

Course Contents: All sections carry equal weightage

Section - A

1. General Anatomy:

- Introduction to Anatomy, terms and terminology
- Regions of Body, cavities and Systems outline.
- Surface anatomy - musculo-skeletal and cardiopulmonary
- Cell Structure and function of cell organelles (Brief outline only).
- Connective tissue & its modification, tendons, membranes, Special connective tissue.
- Bone structure, blood supply, growth, ossification, and classification.
- Muscle classification, structure and functional aspect.
- Nerve - structure, classification, microscopy with examples.
- Neurons, classification with examples. Simple reflex arc.
- Parts of a typical spinal curve/Dermatome
- Joints - classification, structures of joints, movements, range, limiting factors, stability, blood supply, nerve supply, dislocations and applied anatomy.
- Circulatory system - major arteries and veins of the body, structure of blood vessels
- Lymphoid system - circulation + function, lymphoid organs- and their structure & functions.

2. Upper extremity:

- Bony architecture
- Joints - structure, range of movement
- Muscles - origin, insertion, actions, nerve supply
- Major nerves - course, branches and implications of nerve injuries
- Development of limb bones, muscles and anomalies
- Radiographic identification of bone and joints

Section - B

3. Lower Extremity:

- Bony architecture
- Joints - structure, range of movement
- Muscles - origin, insertion, actions, nerve supply
- Major nerves - course, branches and implications of nerve injuries
- Development of limb bones, muscles and anomalies
- Radiographic identification of bone and joints.

4. Spine:
- Back muscles - Superficial layer, Deep muscles of back, their origin, insertion, action and nerve supply.
  - Vertebral column - Structure & Development, Structure & Joints of vertebra
  - Radiographic identification of bone and joints

Section - C

5. Thorax:
- Thoracic cage
  - Pleural cavities & pleura
  - Lungs and respiratory tree
  - Heart and great vessels
  - Diaphragm
6. Head and neck:
- Cranium
  - Facial Muscles
  - Central nervous system - disposition, parts and functions
  - Cerebrum
  - Cerebellum
  - Midbrain & brain stem
  - Blood supply & anatomy of strokes
  - Spinal cord- anatomy, blood supply, nerve pathways
  - Pyramidal, extra pyramidal system
  - Thalamus, hypothalamus
  - Ventricles of brain, CSF circulation
  - Development of nervous system & defects (Brief Description)
  - Cranial nerves - special emphasis on V, VII, X, XI, XII (course, distribution and palsies)
  - Sympathetic nervous system, its parts and components (Brief Description)
  - Parasympathetic nervous system (Brief Description).
7. Miscellaneous:
- a. Embryology in brief covering neuromuscular developmental aspects
  - b. Endocrine - system -- Pituitary, Thyroid, parathyroid (Brief Description)
  - c. Special senses (Brief Description): Nerve receptors, Eye, Ear, Labyrinth
  - d. Abdomen and pelvis (Brief descriptions only):
    - Abdominal cavity - divisions
    - Muscles of abdominal wall, pelvic floor, innervations
    - Bony Pelvis
    - Digestive system (Liver & pancreas, Alimentary canal)
    - Urinary system - Kidney, Ureter, bladder, urethra
    - Genital system - male and female

### Suggested Readings:

S.No.	Author	Title	Publisher	Year	Vol.
1	Chaurasia, B D	Human Anatomy: Regional and Applied	CBS, New Delhi	2004	3V
2	Chaurasia, B D	Human Osteology	CBS, New Delhi	1991	
3	Singh, Inderbir	Text Book of Anatomy: With Color Atlas	Jaypee, New Delhi	1999	3V
4	Singh, Inderbir	Text Book of Neuroanatomy	Jaypee, New Delhi	1999	
5	Singh, Inderbir	Text Book of Human Histology	Jaypee, New Delhi	1997	
6	Singh, Inderbir	Text Book of Human Osteology	Jaypee, New Delhi	1997	
7	Garg, Krishna	Text Book Histology	CBS, New Delhi	1997	
8	Singh, Inderbir	Multiple Choice Questions in Anatomy	Jaypee, New Delhi	1989	
9	Datta, A.K.	Essentials of Human Anatomy: Neuroanatomy	Current Book, Calcutta	1997	
10	Datta, A.K.	Essentials of Human Anatomy: Thorax and Abdomen	Current Book, Calcutta	1997	
11	Williams, Peter L	Gray's Anatomy: Anatomical Basis of	Churchill Livingstone, New York	1995	
12	McMinn, M. H.	Colour Atlas of Human Anatomy	Mosby-Wolfe, London	1995	
13	Snell, Richard S	Clinical Anatomy for Medical Students	Little- Brown, Boston	1995	
14	Field, Derek	Anatomy: Palpation and Surface Markings	Butterworth, London	1997	



GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FIRST YEAR

PHYSIOLOGY

Course Code: BOT 102      L - 4      T/P - 0      CREDITS - 8

Course objectives:

- i. To understand the Physiological functions of human body
- ii. To understand the application of physiological functions & physiology of exercise in relation to physical therapy
- iii. Major area of learning is cardio-respiratory, Musculo-skeletal and nervous system.

Course Contents: All sections carry equal weightage

Section - A

1. General Physiology
  - Structure of cell membrane
  - Transport across cell membrane
  - Functional morphology of the cell
  - Intercellular communication
  - Homeostasis
2. Cardiovascular System
  - Dynamics of blood & lymph flow
  - Anatomical, biophysical consideration of arterial, arteriolar & capillary venous level, Lymphatic circulation
  - Origin and spread of cardiac excitation
  - Basic idea of Electrocardiogram
  - Mechanical events of Cardiac cycle, Cardiac output, its regulation
  - Local & systemic regulatory mechanisms of CVS, humeral & neural
  - Cerebral, coronary, splanchnic, skin, Placental & Fetal circulation
3. Respiratory System
  - Physiological anatomy of lungs, mechanics of respiration
  - Pulmonary circulation, Gas exchange in lungs
  - Oxygen & Carbon dioxide transport
  - Other function of respiratory system
  - Neural & chemical control of breathing
  - Regulation of respiratory activity, non-chemical influences on respiratory activity
4. Cardio respiratory adjustments in health & disease
  - Exercise, high altitude, deep sea diving
  - Hypoxia, hypercapnia, hypocapnia, oxygen treatment
  - Asthma, emphysema, artificial respiration

Section - B

5. Blood
  - W.B.C., R.B.C., Platelets formation & functions
  - Plasma, Blood Groups
  - Haemostasis, Immunity
6. Renal System
  - Glomerular filtration rate, clearance, Tubular function
  - Water excretion, concentration of urine-regulation of Na, Cl, K excretion
  - Physiology of urinary bladder

## 7. Nerve - Muscle and Synaptic & Junction Transmission

- Nerve - General Concept
- Nerve cell - structure
- Genesis of resting membrane potential & Action potential
- Their ionic basis, All or None phenomenon
- Ionic basis of nerve conduction
- Classification & types of nerve fibre
- Mixed nerves & compound action potential
- Concept of nerve injury & Wallerian degeneration
- Muscle properties and functions
- Electric & Mechanical responses & their basis
- Concept of isometric & isotonic muscle contraction
- Electrical events in postsynaptic neurons
- Inhibition & facilitation at synapses
- Chemical transmission of synaptic activity
- Principal neurotransmitter system
- Neuromuscular junction, structure & events occurring during excitation

### Section - C

## 8. Digestive System

- Digestion & absorption of nutrients
- Gastrointestinal secretions & their regulation
- Liver & Exocrine Pancreas

## 9. Functions of Nervous system (descriptive)

- Reflexes, monosynaptic, polysynaptic, withdrawal reflex
- Properties of reflexes
- Sense organ, receptors, electrical & chemical events in receptors
- Ionic basis of excitation
- Sensory pathways for touch, temperature, pain, proprioception, others
- Control of tone & posture: Integration at spinal, brain stem, cerebellar, basal ganglion levels, along with their functions & clinical aspects
- Autonomic nervous system & Hypothalamus
- Higher functions of nervous system
  - i. Learning & memory, neocortex,
  - ii. Limbic functions, sexual behaviour, fear & range, motivation

## 10. Miscellaneous

- i. Special senses
- ii. Endocrinology
- iii. Male & female reproductive system

### Suggested Readings:

S.No.	Author	Title	Publisher	Year	Vol.
1	Chatterji, C. C.	Human Physiology	Medical Allied	1997	2V
2	Keele, Cyril A	Samson Wright's Applied Physiology	Oxford University Press	1998	
3	Bijlani, R L	Understanding Medical Physiology	Oxford University Press	1998	
4	Guyton, A.C. and Hall, J. E.	Textbook of Medical Physiology	W.B.Saunders, Singapore	1998	

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FIRST YEAR

PSYCHOLOGY & SOCIOLOGY

Course Code: BOT 103 L - 4 T/P - 0 CREDITS - 8

Course Objectives:

This course will enable the student to understand specific psychological factors and effects in physical illness and this will help them to have a holistic approach in their dealings with patients during admission, treatment, rehabilitation and discharge.

Note: This course is to be taught by two teachers (Psychologist & Sociologist / Medical Sociologist). Each part carries equal weightage. External Question Paper for each part shall be set by two relevant subject paper setters. The examinees shall use different answer books for the two different parts. And, relevant subject teachers shall evaluate these.

Course Contents: All sections carry equal weightage

PSYCHOLOGY (PART - A)

Section - A

1. What is psychology? Fields of application of psychology, influence of heredity and environment on the individual
2. Learning - theories & principles learning
3. Memory, Forgetting, theories of memory and forgetting, thinking & methods to improve memory
4. Thinking - process, problem solving, decision making and creative thinking
5. Motivation - theories and types of Motivation
6. Emotions - theories of Emotions and stress
7. Attitudes - theories, attitudes and behaviour, factors in attitude change
8. Intelligence - theories of intelligence
9. Personality, theories of personality, factors influencing personality
10. Development and growth of behavior in infancy and childhood, adolescence, adulthood and old age
11. Behavior - normal and abnormal
12. Counseling - Definition, Aims and principles
13. Psychotherapy - brief introduction to paradigms in psychopathology and therapy

Section - B

14. Psychological need of children and geriatric patients
15. Communication - effective and faulty
16. Emotional and behavioral disorders of childhood and adolescence- (in brief)
  - a) Disorders of under and over controlled behavior
  - b) Eating disorders
17. Mental deficiency-
  - a) Mental retardation,
  - b) Learning disabilities
  - c) Autistic behavior
18. Anxiety Disorders -
  - a) Phobias, panic disorder,

- b) Generalized Anxiety disorder,
- c) Obsessive Compulsive Disorder,
- d) Post-traumatic Stress Disorder
- 19. Somatoform and Dissociate Disorders -
  - a) Conversion Disorder,
  - b) Somatization Disorder,
  - c) Dissociate Amnesia & Dissociate Fugue
- 20. Personality Disorder
- 21. Patho-physiological Disorders - stress and health
- 22. Severe psychological disorders - Mood disorders, psychosis

## SOCIOLOGY (PART - B)

### Section - C

#### A-Introduction

1. Meaning-Definition and scope of Sociology
2. Its relation with Anthropology, Psychology, Social Psychology and ethics.
3. Methods of Sociology-case study, Social Survey, Questionnaire, interview and opinion poll methods.
4. Importance of its study with special reference to health care professionals.

#### B-Social Factors in Health and Disease:

1. The meaning of Social Factors.
2. The role of Social factors and illness.

#### C-Socialization:

1. Meaning and nature of Socialization.
2. Primary, Secondary, and Anticipatory Socialization.
3. Agencies of Socialization.

#### D. Social Groups:

1. Concepts of social groups.
2. Influence of formal and informal groups on health and sickness.
3. The role of primary groups and secondary groups in the hospital and rehabilitation settings.

#### E Family:

1. The family - Meaning and definition, Functions
2. Changing family Patterns
3. Influence of family on the individual health, family, and nutrition.
4. The effects of sickness on family and psychosomatic disease and their importance to Physiotherapy

#### F-Community:

1. Rural community - Meaning and features - Health hazards of rural population
2. Urban community - Meaning and features - Health hazards of urban population

### Section - D

#### G-Culture and Health:

1. Concept of culture
2. Cultures and Behaviour
3. Cultural meaning of sickness
4. Culture and health disorders

#### H-Social change:

1. Meaning of social changes & Factors of social change.
2. Human adaptation and social change.
3. Social change and stress.
4. Social and deviance.
5. Social change and health Program.
6. The role of social planning in the improvement of health and in rehabilitation.

#### I-Social problems of disabled:



Consequences of the following social problems in relation to sickness and Disability, remedies to prevent these problems

1. Population explosion.
2. Poverty and unemployment.
3. Beggary.
4. Juvenile delinquency.
5. Prostitution.
6. Alcoholism.
7. Problems of women in employment.

J-Social security: Social security and social legislation in relation to the Disabled.

K-Social worker: Meaning of social work; the role of a medical social worker.

#### Suggested Readings:

S.No.	Author	Title	Publisher	Year	Vol.
1	Morgon, Clifford T.	Introduction to Psychology	Tata Mcg. Hill, Delhi	1999	
2	Farnald, L.D.	Introduction to Psychology	AITBS, Delhi	1999	
3	Korchin, Sheldon J.	Modern Clinical Psychology: Principals	CBS, New Delhi	1999	
4	McDavid, J.W. and Harari, H.	Social psychology: Individuals, Groups, Societies	CBS, New Delhi	1999	
5	Davison, G.C. and Neale, J.M.	Abnormal Psychoiogy	Jhon Wiley, New York	1997	
6	Mehta, Manju	Behavioral Sciences in Medical Practice	Jaypee, New Delhi	1998	
7	Bhusan, Vidya and Sachdeva, D.R.	Introduction to Sociology	Kitab Mahal, New Delhi	1999	
8	Turner, J. H.	Structure of Sociological Theory	Jaipur Publication	1995	
9	Anand Kumar	Indian Society and Culture	Vivek, New Delhi	2000	

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FIRST YEAR

Fundamentals of Occupational Therapy-I  
(Evaluation & Performance Components)

Course Code: BOT 104

L 3

T/P - 0

CREDITS 6

Section I

1. Occupational performance model
2. Principles of Therapeutic Exercises
  - a) Generalized & Specific principles
  - b) Types of movements, Muscle contraction used in Exercises
  - c) Exercise classification & application to activity
  - d) PRF (Progressive Resistive Exercise), REP (Repetitive Isometric Exercise)

TIME (Blot)

Section II

1. Assessment & evaluation, functions of evaluations, evaluative approaches types of assessments/evaluations, process of evaluation (data collection, interpretation & validation), the interview process, types of measurement tools.

2. Identification data (including the importance of socioeconomic status), History taking, Chief complaints and other general points of evaluation (mental status, observation/inspection/palpation/feeling).

3. Definitions, Classification/Components, Assessments (including brief description of standardized and non-standardized & acceptable tests) of O.T. performance components.

SENSORIMOTOR COMPONENT

- (i) SENSORY TESTING (Principle & testing of different sensations)
- (ii) PERCEPTION
- (iii) NEUROMUSCULAR SKELETAL

4. Range of Motion (Definition, types of ROM, planes & axes, principles & procedures, end feels, capsular and non-capsular patterns, precautions and contra indications, measurement of different types of motion)

5. Muscle strength (Definition, principles, precautions and contra indications and testing of different types of strength), power and endurance

6. Muscle tone

7. Postural control & alignment

8. Reflex assessment (DTR's, superficial reflexes, development reflexes)

## Anthropometric characteristics

- Limb Length
- Oedema
- Stump
- Muscle bulk
- Soft tissue examination

## (iv) MOTOR

- Co-ordination (gross motor & fine motor / dexterity)
- (v) → Evaluation & Assessment of Hand & Functional Tests – Jebson Taylor Hand Function Test, Dexterity Tests, Purdue Pegboard Tests, MRMT.

## (v) COGNITION

## (v) PSYCHOSOCIAL

### (i) PSYCHOLOGICAL FUNCTIONS

- dynamic states (needs, emotions, values, interest, motivation).
- intrapsychic dynamics ( conscious unconscious continuum, psychodynamics, defense mechanism)
- reality testing
- insight
- object relations
- self-concept
- self-discipline
- concept of others.

### (ii) SOCIAL INTERACTION

- interpretation of situations
- social skills
- structured social interplay

# Name of Books with Authors

S.No.	Name of Books with Authors	Edition
1	Occupational Therapy by "Willard & Spackman"	8th & 9th
2	OT for Physical Dysfunction by "Pediritti"	5th
3	OT for Physical Dysfunction by "Catherine & Trombley"	4th
4	Psychosocial Concepts of OT by "Mosey"	
5	Manual Muscle Testing by "Candell"	
6	Goniometry by "Daniel's"	



BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FIRST YEAR

Fundamentals of Occupational Therapy-II  
(Human Development and Occupational Performance)

Course Code: BOT 105

L - 3

T/P - 0

CREDITS 6

SECTION I

1. Definition, Role & Scope of OT
2. History & Development of OT
3. Philosophy of OT
4. Ethics in OT
5. Rehabilitation & teamwork
6. Theory of Occupation – Forms of occupation, occupation as evolutionary trait, Biological dimensions, Social dimensions & Psychological dimensions of Occupation, Application of theory to occupational therapy.

SECTION II

Definitions, Classification / Components, Assessments/ Evaluations (including brief description of standardized / non-standardized & acceptable tests) of :

A. Performance Areas :

1. ADL
    - # Personal care, medication routine and health maintenance
    - # Functional and community mobility
    - # Functional communication
    - # Sexual expression
  2. Work and Productive Activities
    - # FCE, WCE, PCE – work assessments
    - Work evaluation tools such as :
      - On-the-job, or work site evaluations
      - Situational assessments
      - Psychometric instruments work samples
      - # Driving evaluation
      - # Home management
      - # Educational activities
    - Play / Leisure Activities
- Performance Contexts
1. Environmental context (physical, social, cultural)
  2. Temporal aspects (chronological, developmental, life cycle, disability status).

SECTION III (Human Development)

- (a) Aspects of human development: - physical, motor, sensory, cognitive, emotional, cultural, social.
- (b) Factors influencing human development :- Biological & environmental
- (c) Principles of Maturation

### Name of Books with Authors

S.No.	Name of Books with Authors	Edition
1	Occupational Therapy by "Willard & Spackman"	6th
2	OT for Physical Dysfunction by "Peditritti"	5th
3	Concepts of OT by "Reed & Sanderson"	3rd
4	OT for Children by "Allen & Pratt"	
5	Normal Human Development by "Illingworth"	

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FIRST YEAR

BIOCHEMISTRY

Course Code: BOT 106

L - 1

T/P - 0

CREDITS - 2

Course Objectives:

To understand biochemical basis of life sciences

Note: A brief description of metabolic pathways mentioned herein is indicated. Details and structures are to be avoided.

Course Contents: All sections carry equal weightage.

Section - A

1. Nutrition: Basic principles of nutrition; Carbohydrates, Proteins and Lipid caloric requirement and balance diet.
2. Carbohydrates: Definition, classification with examples and general functions. Metabolism - Glycolysis, T.C.A Glycogen metabolism, Blood Sugar regulation, Diabetes and diabetic keto-acidosis
3. Lipids: Definition, classifications and general functions. Essential fatty acids, cholesterol, Blood lipids. Brief review of lipoproteins. Metabolism-Oxidation of fatty acids, cholesterol synthesis, and fatty liver.
4. Proteins: Definition, classification, and Bio-medical Importance.

Section - B

5. Study of hemoglobin and immunoglobulins with functions.
6. Plasma Proteins and functions. Metabolism: General reactions of amino acids. Formation and fate of ammonia - Urea cycle.
7. Tissue chemistry: Chemistry of connective tissue, bone and teeth. Composition function and chemical mediators of nerve structure of muscle tissue. General Biochemistry of muscle contraction and relaxation.

Section - C

8. Enzymes: Definition, classification with examples. Factors affecting enzyme action. Brief study of enzyme inhibition. Clinical importance of enzymes.
9. Vitamins: Definition, classification and functions. Dietary source, Daily requirement and deficiency disorders.
10. Water and Electrolyte Balance: General outline of fluid compartments of the body with their water and electrolyte content and balance, Dehydration.

Suggested Readings:

S.No.	Author	Title	Publisher	Year	Vol.
1	Ahuja, Lakshmi	CBS Quick Review in Biochemistry	CBS, New Delhi	1999	
2	Chatterji, M N	Text Book of Medical Biochemistry	Jaypee, Bangalore	1999	
3	Deb, A.C.	Fundamentals of Biochemistry	CBA, Calcutta	1999	
4	Lehninger, A.L.	Principles of Biochemistry	CBS, Delhi	1984	

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FIRST YEAR

ANATOMY

Course Code: BOT 151

L 0

T/P 4

CREDITS 4

PRACTICAL

Learning of surface landmarks with special emphasis on bones, joints, muscles, and nerves. The learning of anatomy is by demonstration only through dissected parts, slides, models, charts, etc.

Demonstration of dissected parts (upper extremity, lower extremity, thoracic & abdominal viscera, face and brain)

Demonstration of skeleton articulated and disarticulated.

During the training more emphasis will be given on the study of bones, muscles, joints, nerve supply of the limbs.

PRACTICAL EXAMINATION

Students will be by viva only based upon learning in theory, demonstration of bones, and joints, muscles, nerves and major viscera.



GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FIRST YEAR

PHYSIOLOGY

Course Code: BOT 152

L - 0

T/P - 4

CREDITS - 4

PRACTICAL

1. Examination of pulse, B.P., respiratory rate, & measure study the effect of posture & exercise.
2. Spirometry to measure various lung capacities & volumes, Respiratory rate, tidal volume, VC, timed VC, IRV, IC, ERV, EC on Spirometry (demonstration only)
3. Estimate of Haemoglobin, T.R.B.C., T.W.B.C. count (demonstration only)
4. Blood Indices, Blood grouping, Bleeding & Clotting time (demonstration only)

PRACTICAL EXAMINATION

Students will be assessed by viva based upon learning in theory.  
Demonstration of measurements of pulse, BP

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FIRST YEAR

Fundamentals of Occupational Therapy-I  
(Evaluation & Performance Components)

Course Code: BOT 153

L - 0

T/P - 2

CREDITS 2

Knowledge of various assessment methods and their demonstrations on models in following areas :

Sensorimotor (including perception)

Cognition

Psycho- social Components.

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FIRST YEAR

Fundamentals of Occupational Therapy-II  
(Human Development and Occupational Performance)

Course Code: BOT 154

L - 0

I/P - 2

CREDITS

2

Knowledge of various assessment methods and their demonstration on models / clients in the following areas :

- (a) A.D.L.
- (b) Work and Productive activities
- (c) Play / leisure

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

SECOND YEAR

PATHOLOGY & MICROBIOLOGY

Course Code: BOT 201 L - 2 T/P - 0 CREDITS - 4

Course objectives:

- Rationale for understanding of the subject for Physiotherapy students
- Brief concept of pathological basis of disease and infectious disease prevention

Course Contents: All sections carry equal weightage

PATHOLOGY

Section - A

1. Inflammation, Injury and repair
2. Oncology: Classification, gross pathological state, cancer pain syndrome (Brief description)
3. Skin: Etio-pathogenesis, gross pathology of commonly occurring skin Diseases, Burns, Pressure ulcers (Brief description)
4. Cardiovascular system: Etio-pathogenesis, gross pathology of conditions- aging, IHD, MI, CCF, HT, RHD, Congenital heart disease, Arteriosclerosis, Thrombo-angitis, Vasomotor-Raynaud's, venous thrombosis, Gangrene, Lymph edema
5. Haematology: (Brief description) - Etio-pathogenesis, gross pathology of conditions- anaemia, polycythaemia, leukaemia, haemolytic disease, and haemophilia
6. Respiratory system: Etio-pathogenesis, gross pathology of conditions - aging, Pneumonia, Pulmonary TB, Bronchiectasis, COPD, Bronchial Asthma, Restrictive Lung disease, Occupational lung disease

Section - B

7. Musculoskeletal system: Etio-pathogenesis, gross pathology of conditions - osteomalacia, Osteoporosis, Osteomyelitis, Osteoarthritis, rheumatoid arthritis, Gout, spondyloarthropathy, Osteonecrosis, Myofascial pain syndrome. Biological responses to trauma, bone and soft tissue immobilization
8. CNS AND PNS: Etio-pathogenesis, gross pathology of conditions - Aging, Meningitis, Encephalitis, Parkinson's, Amyotrophic lateral sclerosis, Ataxias, Multiple Sclerosis, stroke, Neuropathies (Carotid Marie Tooth's disease, Compression and entrapments, diabetic, G.B syndrome), Poliomyelitis and post-polio syndrome, Myasthenia Gravis

MICROBIOLOGY

Section - C

9. Immunology: Brief description of immune system, Immunity, immune responses & immune deficiency Immunology, Hypersensitivity disorders
10. Infectious diseases: Brief description of classification of microorganisms, identification, Sterilization and disinfections with special reference to principles of antisepsis and prevention of communicable diseases in clinical practice
11. Brief description of identification of infectious diseases; principles of prevention of infectious diseases caused by common pathogens - streptococci, staphylococci, gonococci, Meningococci, salmonella, V. cholerae, E. coli, shigella, tetanus, Diphtheria,

M. leprae, M. tuberculosis, Poliomyelitis, Rabies, Malaria, Amoebiasis, Helminthiasis, Scabies, ringworm, candidiasis

**Suggested Readings:**

S.No.	Author	Title	Publisher	Year	Vol.
1.	Chakraborty, P.	Textbook of Microbiology	NCB, Calcutta	1999	
2	Ananth Narayan, R.	Text Book of Microbiology	Orient Longman, Madras	1986	
3	Chatterjee, K. D.	Parasitology: Protozoology and helminthology	Chatterjee, Calcutta	1965	
4	Cotran, Ramzi S	Pathologic Basis of Disease	W. B. Saunders, Singapore	1999	
5	Vinay Kumar	Basic Pathology	Harcourt	1997	
6	Nagalotimath, S.J.	Textbook of Pathology	CBS, New Delhi	1998	
7.	Talib, V. H.	Essential Parasitology	Mehta, New Delhi	2001	

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

SECOND YEAR

PHARMACOLOGY

Course Code: BOT 202 L - 2 T/P - 0 CREDITS - 4

Course Objectives:

- a) To understand pharmaco-kinetics, pharmaco-dynamics.
- b) Usage of common drugs with (indications, contraindications, side effects).
- c) To understand the drug actions that may affect the physical therapy treatment.
- d) Course is not prescription oriented.

Course Contents: All sections carry equal weightage

Section - A

General Pharmacology (brief description only):

- a) Introduction & general concepts
- b) Pharmaco-kinetics (routes of administration, metabolism & elimination)
- c) Pharmaco-dynamics (mechanism of drug action, therapeutic & side effects, toxicity)

Autonomic Nervous System:

- a) Brief outline of Sympathetic-parasympathetic nervous system
- b) Therapeutic agents-uses, effects and interaction with physical therapy

Central Nervous System:

- a) Anaesthetic agents- uses, side effects and interaction with physical therapy
- b) Sedatives and hypnotics - uses, side effects and interaction with physical therapy
- c) Anti epileptic drugs- uses, side effects and interaction with physical therapy
- d) Analgesics - uses, side effects and interaction with physical therapy
- e) Anti inflammatory drugs- uses, side effects and interaction with physical therapy
- f) Psychotherapeutic agents- uses, side effects and interaction with physical therapy
- g) Alcoholism and drug dependence and interaction with physical therapy
- h) Therapeutic agents used for movement disorders- uses, side effects and interaction with physical therapy

Section - B

Cardio-vascular System:

- a) Therapeutic agents (classification, effects on cardio-vascular system, uses & adverse reactions)
- b) Drugs used in cardiac failure, hypertension & arrhythmias and interaction with physical therapy
- c) Drug therapy in vascular disease & ischaemia and interaction with physical therapy

Respiratory system:

Therapeutic agents - uses, side effects and interaction with physical therapy

Section - C

Gastrointestinal system:

Therapeutic agents in Peptic ulcer, Diarrhoea- uses, side effects and interaction with physical therapy

Endocrinal hormones: Thyroid, adrenal, parathyroid hormones - uses, side effects and interaction with physical therapy

Diabetes mellitus:



## Drug therapy and its interaction with physical therapy

### 9. Geriatrics:

Pharmacological challenges in geriatric age group and its effects on physical therapy.

#### Suggested Readings:

S.No.	Author	Title	Publisher	Year	Vol.
1	Tupathu, K.D.	Essential of Medical Pharmacology	New Delhi,	1985	
2	Laurence, D.R.	Clinical Pharmacology	ELBS, London	1975	
3	Eddy, Lynne	Physical Therapy pharmacology	Mosby, London	1992	
4	Barbar, F.S.K.	Essential. Of Pharmacotherapeutics	S. Chand, New Delhi	2000	

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

SECOND YEAR

MEDICINE & PAEDIATRICS

Course Code: BOT 203      L - 2      T/P - 0      CREDITS - 4

Course Objectives:

1. To understand the subject of medicine, the medical patient & implications of medical condition in physical therapy
2. To understand a Paediatrics patient and its special needs in relation to physical therapy

Course Contents: All sections carry equal weightage

MEDICINE

Section - A

1. Introduction: Brief outline of subject of medicine, a medical patient, common signs & symptoms of disease
2. Infectious Diseases: Brief description of concept of infection, types, classification & common clinical manifestation of infection and general principle of management (No specific infections)
3. Nutritional & Metabolic Diseases: Brief description of following diseases along with outline of management: Diabetes Mellitus, Vitamins (A, B, C, D & K) and Minerals (iron, calcium phosphorus, iodine) deficiencies, and Obesity
4. Alimentary tract: Brief description of manifestations of alimentary tract disease & general principle of diagnosis & outline of management of following diseases: Peptic ulcer disease, common infections of small & large intestine
5. Brief description of liver diseases along with outline of management: Hepatitis, & Jaundice
6. Diseases of the blood: Brief description of manifestations along with outline of management of common blood diseases - Anaemia, Leukaemia, Coagulopathy
7. Diseases of connective tissues: Brief description of manifestations along with outline of management of - SLE, polymyositis
8. Diseases of skin: Brief description of manifestations along with outline of management of common skin diseases - scabies, pediculosis, taeniasis, impetigo & psoriasis
9. Geriatrics- physiology of ageing, manifestations of diseases in old people and general principles of management. Implications of aging in physical therapy: lung disease, Pleurisy & Pulmonary embolism
10. First Aid in common Medical Emergencies

Section - B

11. Cardio-vascular System: Manifestations of heart & vascular disease & general principle of diagnosis. Brief description of following diseases along with outline of management: Cardiac failure, Ischaemic heart disease, hypertension, atherosclerosis, Deep vein thrombosis
12. Respiratory System: Manifestations of respiratory disease & general principle of diagnosis. Brief description of following diseases along with outline of management: Obstructive Pulmonary diseases (Bronchial Asthma, COPD), pulmonary infections (Pneumonia, Bronchitis, Lung abscess, Tuberculosis), Respiratory failure, occupational

## PAEDIATRICS

### Section - C

1. Normal Growth and development of child – motor, mental, language and social
2. Pathological presentations of growth and development disorders
3. Common infectious diseases in children: Brief description of following infectious diseases along with outline of management: Tetanus, diphtheria, Mycobacterial, measles, chicken pox, gastroenteritis, HIV, and Malaria
4. Immunization programmes – WHO schedule, different vaccinations, rationale; special consideration to various disease eradication programmes like Pulse-Polio
5. Child and nutrition - Nutritional requirements, malnutrition syndrome, Vitamins (A, B, C, D & K) and Minerals (iron, calcium phosphorus, iodine) deficiencies in children and management in brief
6. Clinical presentation, management & prevention of the following: Cerebral palsy, Poliomyelitis, Muscular dystrophy
7. Childhood rheumatism-types, clinical presentation, & management in brief
8. Acute CNS infections: clinical presentation, complications and management of bacterial and tubercular infections in brief
9. Clinical presentation, management & prevention of the following respiratory conditions: URI, LRI, bronchiolitis, asthma, TB (in brief)
10. Clinical presentation, management & prevention of the following cardiac conditions: Rheumatic heart disease, SABA, Congenital heart disease - ASD, VSD, PDA (in brief)

#### Suggested Readings:

S.No.	Author	Title	Publisher	Year	Vol.
1	Chamberlin, E.N. and Ogilvie, C.	Symptoms and signs in Clinical Medicine	Jhon Wright	1974	
2	Swash, Michael	Hutchison's Clinical Methods	W B Saunders, London	2000	
3	Ghai, O. P.	Essential Pediatrics	Interprint, New Delhi	1987	
4	Haslett, C.	Davidson's Principal and Practice of Medicine	Churchill Livingstone, London	1999	
5	Golwalla, Aspi F.	Medicine For Student	NBD, Mumbai	2003	
6	Behrman, R.	Nelson's Text Book of Pediatrics	W B Saunders, London	2001	2V
7	Kasper, D.L	Harrison's Principles of Internal Medicine	Mc-Graw Hill, New York	2005	2V

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

SECOND YEAR

GENERAL SURGERY

(INCLUDES CARDIO-THORACIC, VASCULAR & NEUROSURGERY)

Course Code: BOT 204      1 - 2      T/P - 0      CREDITS - 4

Course Objectives:

- a) To understand common surgical conditions & surgical procedures.
- b) To understand implication of surgical conditions, procedures on physical therapy.

Course Contents: All sections carry equal weightage

Section - A

- 1) Introduction to Surgery, surgical patient, principles of surgical examination (Brief description)
- 2) Anesthesia: Brief description of events of General Anesthesia, potential complications & outline of management
- 3) Common types of wounds, scars, ulcers, boils - clinical feature and out line of treatment
- 4) Burns: causes, classification, complications, conservative management of patients. Management of burns & wound scars
- 5) Brief outline of nutritional support, pain relief of a surgical patient
- 6) Abdominal wall: brief surgical anatomy
  - a. Brief description of various types of abdominal incisions, external opening of abdominal viscera (colostomy) resultant potential complications and management
  - b. Brief description of causes, clinical presentation and management of various types of hernias
- 7) General principles of plastic surgery and postoperative management

Section - B

- 8) Cranium:
  - a. Head injuries - classification, clinical features, complications & management
  - b. Intra-cranial disorders - clinical features, complications & management of brain abscess, space occupying lesion, hydrocephalus, vascular malformation (brief)
- 9) Nerve injuries - causes, clinical features of Cranial (V, VII) & peripheral nerve injuries (major nerves), complications & management
- 10) Vertebral column injuries - classification, clinical features, complications & management

Section - C

- 11) Vascular Disorders: clinical features, complication & management of Arterial occlusion, dilatations, arteritis, small vessel abnormalities
  - a. Gangrene - classification, brief clinical features & management
  - b. Amputations - causes & types
  - c. Superficial & deep vein thrombosis - pathogenesis, prevention & management
- 12) Thorax:

- a. Chest injuries - classification, causes, clinical features, complications & management Pulmonary resection - causes, outline of surgical management, pneumothorax, haemo - pneumothorax
- b. Heart: - brief description of various surgical heart diseases with respect to clinical presentation, complications and management - valvular heart disease, congenital heart disease -e.g., ASD, VSD, PDA, Ischaemic heart disease. Outline of postoperative complications in cardiac surgery and their management
- c. Brief description of first aid principles of cardio-pulmonary resuscitation and trauma

#### Suggested Readings:

S.No.	Author	Title	Publisher	Year	Vol.
1	Russell, R.C.G.	Short practice In Surgery	Arnold, London	2000	
2	Gupta, R. L.	Text Book of Surgery	Jaypee, New Delhi	1996	

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BACHELOR OF OCCUPATIONAL THERAPY (BOT)

SECOND YEAR

Ergo-therapeutics-I

(Therapeutic Management Tools in Occupational Therapy)

Course Code: BOT 205

L - 4

T/P - 0

CREDITS - 8

SECTION I

1. Selection of the appropriate assessment / evaluative tools
2. Theoretical bases of O.T. intervention (Theories and Frames of reference).
3. Tools of practice
  - (i) therapeutic use of self
  - (ii) group process
  - (iii) use of activities
  - (iv) problem-solving
  - (v) therapeutic adaptations
- U/E splinting (purpose, classification nomenclature components, fundamental concepts, principles of splinting, application & management),
- Functional Bracing – Define, concept of FB . Material used & Its advantages.
- Assistive & adaptive equipment {including ambulatory & mobility aids (wheelchair : assessment of the individual, types of w/c, components, w/c prescription, maintenance, maneuvering, w/c activities)}
- Technology (including the use of Biofeedback).
4. Work simplification, energy conservation and joint protection techniques.

SECTION II

Specific Treatment Considerations

1. Performance Components

- (a) desensitization & sensory re-education
- (b) muscle re-education
- (c) maintaining & increasing ROM
- (d) maintaining & improving muscle strength
- (e) maintaining & improving endurance
- (f) motor control, performance & behavior { Rood's, PNF, Bobath, Brunnstrom, Motor Relearning Program, Task – Oriented Approach}

2. Performance Areas

- (a) ADL
  - Learning
  - Adaptation
  - ADL methods (transfers, self-care, medication routine health maintenance. Socialization functional communication & mobility community mobility, emergency response .sexual expression )
- b) Work and Productive Activities
  - Home management
  - Care for the others



### Educational Activities

- Vocational activities ( including work hardening & conditioning )

### c) Play & Leisure Activities

- Definitions & Theories of Play ( Erikson, Freud, Piaget, Reilly)
- Play & Leisure exploration
- Social physical, sensory, emotional, perceptual, cognitive content & structure of play
- Role of play in Occupational Therapy process.
- Improving performance in Play & Leisure activities

### 3. Performance Contexts

- Person -Task- Environmental models (Person capabilities.
- Environmental demands, performance discrepancy)
- Models for function & dysfunction
- O.T. approaches to performance discrepancy
- Clinical decision- making guide for P-T-E Interventions
- Target outcomes (adapt, alter, prevent, create, establish or restore)

# Name of Books with Authors

S.No.	Name of Books with Authors	Edition
1	Occupational Therapy by "Willard & Spackman"	8th
2	OT for Physical Dysfunction by "Pediritti"	5th
3	Psychosocial Concepts of OT by "Mosey"	
4	OT for Children by "Allen & Pratt"	
5	Motor Relearning Programme by "Carr & Shephard"	
6	OT for Physical Dysfunction by "Catherine and trombley"	5th

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BACHELOR OF OCCUPATIONAL THERAPY (BOT)

SECOND YEAR

Ergo-therapeutics-II

(Activity Analysis and Biomechanics)

Course Code: BOT 206

L - 4

T/P - 0

CREDITS - 8

### SECTION-I

1. Historical overview of goal directed behavior & activity analysis
2. Defining crafts & activities
3. Systems theory
4. Integration of early concepts : mind / body unity & lifestyle
5. Categories of activities
6. Model of balance between client skill & task difficulty
7. Characteristics of O.T. activities
8. Activity analysis
  - (i) Task focused activity analysis (including constraints)
  - (ii) Theory focused activity analysis
  - (iii) Individual focused activity analysis
9. Analysis procedures
10. Activity selection general & criteria (including psychosocial properties of activities ).Activity Adaptation
11. Tool use
12. Therapeutic teaching &-learning process
13. Knowledge of different machines and equipments used in occupational therapy.
14. Knowledge of tools, equipments, materials and their therapeutic value in occupational therapy.
15. Physical agent modalities in Occupational Therapy.

### SECTION - II

#### BIOMECHANICS & KINESIOLOGY

- I) Essential concepts
  - a) Motion and forces
  - b) Force distribution - linear force, resultant force & equilibrium, parallel forces in one plane.
  - c) Newton's laws - Gravity and its effects on human body
  - d) Moments
  - e) Forces and moments in action
  - f) Concepts of static equilibrium and dynamic equilibrium
  - g) Composition and resolution of forces
  - h) Friction
- II) Kinematic concepts
  1. Kinematic aspects of limb movement
  2. Classification of levers

Physiological significance of negative mechanical advantage

Muscle function and performance

- IV) Hip joint kinematics- motion and forces of hip joint, Two leg stances and one leg stances, Varus and valgus of femoral neck, Other factors affecting hip joint forces, Effect of cane by lever approach
- V) Knee and leg kinematics-Motion & Forces of knee joint, Patello-femoral joint
- VI) Ankle and foot Kinematics-Motion & Forces of ankle, Stability of ankle joint, Weight bearing on foot, Arches of foot
- VII) Biomechanics of gait
  - Gait cycle
  - Parameters of gait
  - Myokinetics of human gait
  - Gait deviations
  - Crutch and cane exercises
- VIII) Posture
  - Anatomical aspects of posture
  - Factors affecting posture
- IX) Biomechanics of Upper Extremity
  - Shoulder Joint
  - Elbow Joint
  - Wrist Joint & Hand
- IX) Vigorous movement

# Name of Books with Authors

S.No.	Name of Books with Authors	Edition
1	Occupational Therapy by "Willard & Spackman"	8th
2	OT for Physical Dysfunction by "Pediritti"	5th
3	Biomechanics by "Norkin's"	
4	Occupational Therapy by "Christensen & Baum"	
5	Biomechanics by "OTTIS"	
6	OT for Physical Dysfunction by "Catherine and trombley"	5th

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BACHELOR OF OCCUPATIONAL THERAPY (BOT)

SECOND YEAR

Ergo-therapeutics-I

(Therapeutic Management Tools in Occupational Therapy)

Course Code: BOT 252 L - 0 T/P - 7 CREDITS - 7

Identify prostheses, orthoses, wheelchair, aids and appliances and name their components and demonstrate their use.  
Cutting templates for hand splinting (on paper) and fabricating different hand splints.

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BACHELOR OF OCCUPATIONAL THERAPY (BOT)

SECOND YEAR

Ergo-therapeutics-II

(Activity Analysis and Biomechanics)

Course Code: BOT 253      I - 0      T/P - 7      CREDITS - 7

Make 2 projects or perform activities and do activities analysis for these.  
Identify tools and demonstrate their uses and therapeutic values with adaption.  
Lecture on equipment and machines used in O.T.  
Lecture on Biomechanics & Kinesiology



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BACHELOR OF OCCUPATIONAL THERAPY (BOT)

THIRD YEAR

Neurology

Course Code: BOT 301

L - 2

T/P - 0

CREDITS - 4

Course Objectives:

- a) To understand clinical manifestations of Neurological and Psychological disorders
- b) The rationale and implications of psychological disorders on disability
- c) To understand the management of neural & psychological disorders

Course Contents: All sections carry equal weightage

Section - A (Neurology)

Nervous system: Disorders of Neurological functions in the light of Anatomy and Physiology (Brief description only) - Cerebrum, Cerebellum, Spinal Cord, Major Nerve Tracts, Motor System, Sensory System, Autonomic System, Reflexes, Communication & CSF

Clinical examination of a neurological patient

General manifestations of nervous system disease & principles of diagnosis & management

Brief Description of Headache, migraine, raised intra-cranial pressure

Cranial Nerves and special senses with major emphasis on V, VII, X, XI, & XII

Inflammatory conditions (brief description) - meningitis (bacterial, tubercular), viral encephalitis, syphilis, rabies

Disorders of cerebral circulation - ischaemia, haemorrhages (CVA), HT, encephalopathy

Demyelinating diseases (brief description) - acute disseminated encephalomyelitis, multiple sclerosis

Extra pyramidal syndromes - Parkinson's disease, Chorea, Athetosis, Dystonia, Hemiballismus, Spasmodic Torticollis

Convulsive disorders (brief description) - epilepsy (GM, PM, Psychomotor), tetany

Developmental and degenerative syndromes - cerebral palsy, kernicterus, hereditary ataxias, motor neuron disease, Peroneal muscular atrophy

Section - B

Disorders of Spinal cord and Cauda Equina- spinal cord injury, paraplegia, quadriplegia, spina-bifida, transverse myelitis, Neurogenic bladder and bowel

Metabolic and intoxication disorders (brief description) - Alcoholism, Drug addiction, heavy metals poisoning (lead, mercury, copper), Organo-phosphorous poisoning, electric shock, tetanus, botulism

Peripheral nerve disorders - traumatic/ compression or entrapment neuropathy, polyneuritis, GB syndrome, diabetic polyneuropathy and spinal radiculopathies. Special emphasis on brachial and lumbo-sacral plexuses and major nerves - radial, ulnar, median, femoral, and sciatic nerve

Muscle disorders - Progressive muscular dystrophy, polymyositis, myasthenia gravis, floppy infant syndrome

Autonomic nervous system (brief description)- clinical features of autonomic disorders, autonomic dysreflexia, autonomic nervous system and pain

# Suggested Readings:

S. No.	Author	Title	Publisher	Year	Vol.
1	Bannister, R.	Brain and Bannister Clinical Neurology	Oxford university press, oxford	2002	
2	Chamberlain, E.N.	Symptoms and Signs in Clinical Medicine	John Wright, Bristol	1974	
3	Friedman, H.H.	Problem-Oriented Medical Diagnosis	Little Browne, Boston	1979	3V
4	Swash, Michael	Hutchison's Clinical Method	W B Saunders, London	2000	
5	Rees, Lingford	New Short Text Book Of psychiatry	Arnold, New Delhi	1988	
6	Walton, John	Brain's Disease of the Nervous System	Oxford university press, Delhi	1998	
7	Haerer, A.F.	Neurological Examination	Lippincott, Philadelphia	1999	
8	Ahuja, Neeraj	Short Text Book Of psychiatry	Jaypee, New Delhi	1999	
9	Haslett, C.	Davidson's Principal and Practice of Medicine	Churchill Living stone, London	1999	
10	Kasper, D.L	Harrison 's Principles of Internal Medicine	Mc-Graw Hill, New York	2005	2V

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BACHELOR OF OCCUPATIONAL THERAPY (BOT)

THIRD YEAR

ORTHOPAEDICS

Course Code: BOT 302

L - 2

T/P - 0

CREDITS - 4

Course objectives:

1. To understand an orthopaedic patient, common orthopaedic conditions and procedures
2. To understand applications of physical therapy in various orthopaedic conditions
3. To understand the implications of various orthopaedic conditions, and procedures on physical therapy

Course Contents: All sections carry equal weightage

Section - A

1. Introduction to Orthopaedics: An Orthopaedic patient, history taking, clinical features, clinical examination, and investigation
2. Fracture healing (Normal & pathological)  
Calcium-phosphorus metabolism - normal and pathological states
3. Congenital malformations:  
Brief descriptions of following congenital conditions along with the outline of treatment:  
Congenital Hip Displasia, Congenital Talipes Equinovarus / Calcaniovalgus, Arthrogryposis Multiplex Congenita, Congenital Torticollis, Acromelia, phocomelia, Amelia, Spina Bifida: all types, clinical presentation, sequel & management
4. Development diseases of skeleton: (Brief description only)  
Osteogenesis imperfecta, heterotopic ossification, Osteochondritis, Perthes' disease
5. Neuromuscular diseases:  
Volkman's Ischaemic contracture, obstetrical paralysis, and peroneal muscular atrophy  
Poliomyelitis - orthopaedic aspects and treatment of deformities
6. Spinal deformities: clinical features, diagnosis & Conservative management of Scoliosis, Kyphosis, and traumatic deformities
7. Infections of Musculoskeletal system with conservative management (in brief):
  - a. Bacterial infections
  - b. Tubercular infections
  - c. Leprosy, Pott's paraplegia
8. Neuro-vascular Diseases (Brief Description): orthopaedic aspects and treatment of -  
Nerve Injuries (major nerves), Plexus injuries

Section - B

9. Arthritis & Rheumatic Diseases: Clinical features, evaluation & conservative management of various categories of arthritis
  - i. Rheumatoid arthritis, Juvenile Ch. Arthritis, Reiter's disease
  - ii. Polymyalgia rheumatica,
  - iii. Gout,
  - iv. Osteoarthritis,
  - v. Ankylosing spondylitis,
  - vi. Neuropathic joints, haemophilic arthropathy,
  - vii. Avascular necrosis.
10. Bony & Soft tissue injuries: Injury & repair, Clinical presentation, evaluation & general principles of rehabilitation management (Brief Description)

11. Upper Limbs: Clinical presentation, evaluation & conservative management of rotator cuff injuries, adhesive capsulitis, bursitis, biceps tendonitis, shoulder dislocation, snapping & winged scapula, tennis and golfer elbow, olecranon bursitis, soft tissue injuries, sprains and strains, Arthritic conditions, tenosynovitis, Carpal tunnel syndrome, deformities Dupuytren's contracture, VIC, reflex sympathetic dystrophy, common fractures and dislocations

#### Section - C

12. Lower Limb: Clinical presentation, evaluation and conservative management of Arthritic conditions, soft tissue injuries, sprains and strains, achillis tendonitis, bursitis, plantar fascitis, deformities, reflex sympathetic dystrophy, neuropathic Joints, common fractures and dislocations
13. Spine: clinical presentation, evaluation and conservative management of - disc prolapse, cord compression, spondylosis, Ankylosing spondylosis, Spondylolisthesis and Spinal Fractures
14. Amputations - Justification, outline of surgical approaches, incisions, procedures, indications, contraindications, complications & management.

#### **Suggested Readings:**

S.No.	Author	Title	Publisher	Year	Vol.
1	Joshi, J. and Kotwal, P.	Essential Of Orthopedics and Applied Physiotherapy	Elsevier, New Delhi	2004	
2	Terke, Samuel L.	Orthopedics: principles and their application	Lippencott, New York	2000	2V
3	Magee, David J.	Orthopedic and Physical Assessment	Saunders, Philadelphia	2002	
4	Maheshwari, J	Essential Orthopedics			
5	Solomon, Louis	Apley's Systems of Orthopedics and Fracture	Arnold, London	2001	
6	McRae, R. and Esser, Max	Practical Fracture Treatment	Churchill Living stone, London	2002	

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BACHELOR OF OCCUPATIONAL THERAPY (BOT)

THIRD YEAR

Psychiatry

Course Code: BOT 303

L - 2

T/P - 0

CREDITS - 4

1. Brain and Behavior  
(neuroanatomy, neuropsychiatry, brain imaging, neurophysiology & neurochemistry, behavioral genetics)
2. Contributions of the psychological sciences to human behavior (theories, accidents, injuries, ethology, experimental disorders and sociobiology, anthropology etc.)
3. Psychometric neuropsychological testing
4. Theories of personality and psycho pathology
5. Clinical examination of the psychiatric patient
6. Typical signs and symptoms of psychiatric illness defined
7. Classification in psychiatry and psychiatric rating scales
8. Delirium, dementia and amnesic and other cognitive disorders due to a general medical condition
9. Neuropsychiatric aspects of HIV and AIDS
10. Substance related disorders
11. Schizophrenia
12. Other psychotic disorders
13. Mood disorders
14. Anxiety disorders
15. Somatoform disorders
16. Factitious disorders, Dissociative disorders
17. Human sexuality
18. Gender identity disorders
19. Eating disorders
20. Normal sleep & sleep disorders
21. Impulse control disorders not classified elsewhere
22. Adjustment disorders
23. Personality disorders
24. Problems related to abuse or neglect
25. Psychiatric emergencies
26. Psychotherapies  
Psychoanalysis and psychoanalysis psychotherapy brief psychotherapy and crisis intervention group  
psychotherapy combined individual and psychodrama, family therapy, marital therapy, biofeedback,  
behavior therapy, hypnosis, cognitive therapy.)
27. Biological therapies
28. Child psychiatry - assessment, examination and psychological testing
29. Mental retardation
30. Learning disorders
31. Developmental coordination disorders
32. Pervasive development disorders, attention deficit disorders

- 33. Feeding, eating disorders of infancy or early childhood
- 34. Tics disorders
- 35. Elimination disorders
- 36. Other disorder of infancy, childhood, adolescence
- 37. Psychiatric treatment of children and adolescents
- 38. Geriatric psychiatry

Name of Books with Authors

S.No.	Name of Books with Authors	Edition
1	Text Book of Psychiatry By "Kaplan"	
2	Psychiatric Conditions by " Neeraj Ahuja"	
3	Text Book of Psychiatry by "M S Bhatia"	



# Name of Books with Authors

S.No.	Name of Books with Authors	Edition
1	Fitting a Man to a Task by "Jacobson"	
2	Text Book of Physiology by "Guyton"	
3	Text Book of Physiology by "A K Jain"	
4	Text Book of Physiology by "Ganion"	
5	Text Book of Physiology by "Chaudhary"	

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

THIRD YEAR

Work Physiology & Ergonomics

Course Code: BOT 304

L - 2

T/P - 0

CREDITS - 4

SECTION I

WORK PHYSIOLOGY

- ) Physical performance. Aerobic & anaerobic processes, physiology of aerobic and anaerobic exercises.
- ) Evaluation of physical performance. tests of maximum aerobic power and anaerobic power master step test tread mill bicycle ergometry, measurement of oxygen uptake.
- ) Principles & methods physical training.
- ) Applied work physiology: energy expenditure at work, rest, leisure & fatigue.
- ) Nutrition and physiology performance.
- ) Temperature regulation.
- ) Factors affecting performance.

SECTION II

ERGONOMICS

- ) Definition & areas of ergonomics
- ) Anthropometry - definition, facets, purpose and methods of carrying out studies, principles in application.
- ) Environmental physiology - types of environment their effect on human body.
- ) Man-machine oriented topics- functioning of man-machine system, information-processing theory.
- ) Design of work space and work equipment.
- ) Layout of equipment, design of seating, displays, characteristics of control & compatibility.
- ) Environmental factors: temperature, humidity, noise, vibration, and visual environment pollution.
- ) Safety factors- accidents and their prevention
- ) Outline of methods man-product analysis.
- ) Scope of ergonomics in modern industrial society
- ) Application of ergonomics of O.T.

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

THIRD YEAR

Occupational Therapy in Medical Conditions

Course Code: BOT 305.

L - 4.

T/P -

CREDITS - 8

Review of the pathological changes and principles of management by Occupational therapy in the following conditions:

Section - I General Medicine

1. Inflammation acute, chronic and suppurative.
2. Oedema - Traumatic, obstructive, paralytic, Oedema due to poor muscle and lamity of the fascia.
3. Common condition of Skin - Acne, Psoriasis, Alopecia, Leucoderma, Leprosy. Sexually transmitted disease.
4. Deficiency Diseases - Rickets, Diabetes, Obesity, Osteoporosis & other deficiency disorders related to Occupational Therapy.

Section - II Respiratory Conditions

- A. 1. Review of mechanism of normal respiration.  
2. Chest examination, including auscultation, percussion.  
3. Knowledge of various investigative procedures (invasive & noninvasive used in the diagnosis of respiratory disorders.

B. Review of the pathological changes and principle of management by OT of the following conditions:

- 1) Bronchitis, Asthma, Lung abscess, Bronchiectasis, Emphysema, COPD.
- 2) Pleurisy and Empyema, Pneumonia.
- 3) Bacterial diseases
- 4) Rheumatic fever, carcinoma of respiratory tract.
- 5) Paralysis of diaphragm & vocal cords.
- 6) Chest wall deformities.

Section - III Cardiovascular Conditions

1. Review of anatomy and physiology of the cardiovascular system.
2. Knowledge of various investigative procedures (invasive & noninvasive) used in the diagnosis of various cardiovascular disorders.
3. Review of the pathological changes and principles of management by OT of the following conditions: Thrombosis, Embolism, Buerger's diseases, Arteriosclerosis, Thrombophlebitis, Gangrene, Congestive Cardiac failure, Hypertension, Hypotension - Aneurysm.

Section - IV Paediatrics

1. Review of the examination and assessment of a paediatric patient
2. Review of the pathological changes and principles of management by OT of the following conditions.

1. Common congenital and acquired musculo-skeletal disorders.
2. Common congenital and acquired neurological disorders (CNS and PNS).
3. Common hereditary disorders.
4. Common nutritional, metabolic and vitamin deficiency disorders.

#### Section V Geriatrics

Review of the examination and assessment of a geriatric patient.

Review of the pathological changes and principles of management by OT of the following conditions:

1. Musculo - Skeletal disorders.
2. Cardiopulmonary disorders.
3. Neurological disorders (CNS & PNS)
4. Injuries and accidents specific to the aged.

#### Section - VI

Occupational Therapy in Visually Impaired & blind, Hearing Impaired & deaf, Speech problem & dumb

#### Section - VII

Various models, frames of references in occupational therapy (in details)

Physical Agents Modalities as an adjunct to OT.

Various Approaches - Rood's, Bobath, S.I., M.R.P, Brunnstrom

# Name of Books with Authors

S.No.	Name of Books with Authors	Edition
1	Text Book of Occupational Therapy by "Willard & Speckman"	8,9, 10th
2	OT in Physical Dysfunction By "Catherine & Trombley"	4th & 5th
3	Occupational Therapy by "Turner"	
4	OT for Physical Dysfunction by "Pederitti"	5th
5	OT for Children by "Allen & Pratt"	
6	Frame of Reference by "Kramer"	
7	M R P by "Carr and Shephard"	

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

THIRD YEAR

Occupational Therapy in Surgical Conditions

Course Code: BOT 306

L - 4

T/P - 0

CREDITS - 8

Review of the pathological changes and principles of pre and post operative management by OT of the following conditions:

Section - I Thoracic Surgery

Lobectomy, Pneumonectomy, Thoracotomy, thoracoplasty, Endoscopic and eye hole surgeries.  
Corrective surgeries of congenital heart defects, angioplasties, blood vessel grafting, open heart surgeries and heart transplant.

Section - II General Gynaecology and Obstetrics and ENT

Common abdominal surgeries, including GIT, liver, spleen, kidney, bladder, etc.  
Common operation of reproductive system, including surgical intervention for child delivery. Ante natal and post natal management.  
Common operations, of the ear, nose, throat and jaw as related to OT  
Common organ transplant surgeries - liver, bone marrow, etc.

Section - III Wounds, Burns and Plastic Surgery

Wounds, ulcers, pressure sores.  
Burns and their complications.  
Common reconstructive surgical procedures for the management of wounds, ulcers, burns and consequent contractures and deformities.

Section - IV Neurosurgery

Common surgeries of the cranium and brain  
Common surgeries of the vertebral column and spinal cord.  
Common surgeries of the peripheral nerves.  
Surgical interventions in traumatic head injuries.

Section - V Cancer Rehabilitation

Preventive, Restorative, Supportive & Palliative aspect of Radical Mastectomy, Head & Neck cancer, hospice care.

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3	Occupational Therapy by " Turner"	
4	OT for Physical Dysfunction by "Pederitti"	5th
5	OT for Children by "Allen & Pratt"	
6	Frame of Reference by "Kramer"	
7	M R P by "Carr and Shephard"	
8	Operative Surgery by "S Das"	



GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

THIRD YEAR

Occupational Therapy in Medical Conditions

Course Code: BOT 352

L - 0

T/P - 7

CREDITS - 7

Occupational Therapy evaluation and assessment using standardized and non-standardized methods  
Setting goals for intervention based on the Models and Frames of references  
Clinical demonstrations of the approaches used  
Treatment planning, implementation, termination and follow-up

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

THIRD YEAR

Course Code: BOT 353 L - 0 T/P - 7 CREDITS - 7

OCCUPATIONAL THERAPY IN SURGICAL CONDITIONS -

Occupational Therapy evaluation and assessment using standardized and non-standardized and methods.  
Setting goals for intervention based on the Models and Frames of references  
Clinical demonstration of the approaches used  
Treatment planning, implementation, termination and follow-up.

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FOURTH YEAR

COMMUNITY REHABILITATION & DISABILITY PREVENTION

Course Code: IBOT 401 L - 2 T/P - 0 CREDITS - 4

Course objectives:

- a) To understand the concept of Rehabilitation and team approach.
- b) Principles of Physiotherapy in Rehabilitation.
- c) Disability evaluation & management.
- d) Application of Physiotherapy at community level.

Course Contents: All sections carry equal weightage

REHABILITATION

Section - A

1. Introduction of Rehabilitation & History
2. Epidemiology of disability (Impairment, disability, phases of disability process, etc.).
3. Principles of Rehabilitation & concept of team approach with rolls of each individual participant.
4. Organization of Rehabilitation unit.
5. Disability prevention evaluation & principles of Rehabilitation Management.
6. Role of Physiotherapy in Rehabilitation (Preventive, treatment & restoration)

Section - B

7. Brief outline of Communication disorder & its implications on Rehabilitation process.
8. Brief outline of psychosocial & vocational aspects of Rehabilitation.
9. Introduction to Occupational therapy.
10. Activities of daily living, functional assessment & training for functional independence.
11. Brief outline of basic community medicine with special reference to community based Rehabilitation, infrastructure and role of CBR
12. Assessment of disability in rural & urban setups. Health care delivery system & preventive measures with specific reference to disabling conditions. Community education programme.
13. Application of Physiotherapy skills at community level with special reference to the need at rural level.

BIO-MEDICAL ENGINEERING

Section - C

1. Introduction to surgical anatomy and various pathological deviations with respect to brace fitting (brief outline only).
2. Rationale of prescribing Prosthetic and Orthotic devices.
3. Types of Prosthetic and Orthotic devices: Spinal, Lower limb, and Upper limb.
4. Checkout, usage advice, precautions, and follow-up.
5. Walking aids and wheel chairs: prescription, usage advice, and follow-up.

# Suggested Readings:

S. No.	Author	Title	Publisher	Year	Vol.
1	Park, J.E.	Text Book of Preventive and Social Medicine	Banarsidas, Jabalpur	1987	
2	Pedretti, L.W.	Occupational Therapy: Practice skill	Harcourt-Brace, New York	1990	
3	Sunder, S.	Rehabilitation Medicine	Jaypee, New Delhi	1999	
4	Bates, Barbara	Physical Examination and History Taking	J.B.Lippincott, Philadelphia	1995	
5	Mackee, Pat	Orthotics in Rehabilitation	Jaypee, New Delhi	1998	
6	W.H.O.	Disability Prevention and rehabilitation In primary Health Care: Guide for District Health and Rehabilitation Managers	W.H.O	1995	
7	Lusardi, M.M. and, Nielsen, C.C.	Orthotics and Prosthetics In Rehabilitation	Butter worth- Heine, Woburn	2000	
8	Delisa, Joel A.	Rehabilitaion Medicine: Principal and Practice	J.B.Lippincott, New York	1998	
9	Braddom, Randall L.	Physical Medicine and Rehabilitation	W B Saunders, New York	2000	
10	Sharwan Kumar	Multidisciplinary Approach to Rehabilitation	Butter worth- Heine, New York	2000	
11	W.H.O.	Community- Based Rehabilitation and The Health Care Referral Services: Guide for Programme managers	W.H.O.	1994	
12	Kottke, and Lehmann	Handbook of Physical Medicine and Rehabilitation	W B Saunders, London	1990	

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FOURTH YEAR

RESEARCH METHODOLOGY & BIO-STATISTICS

Course Code: BOT 402

L - 2

T/P - 0

CREDITS - 4

Course Contents: All sections carry equal weightage

SECTION-A (BIOSTATISTICS)

- 1) Definition - Statistics, Biostatistics
- 2) Applications of Biostatistics
- 3) Data collection from experiments & surveys.
- 4) Variable - Qualitative & Quantitative, Discrete and continuous.
- 5) Presentation of Data: -
  - a) Tabular Presentation of Data - Statistical Table, Format of a Table.
  - b) Frequency Distribution - construction of Frequency Distribution, cumulative and relative frequency distribution, Exclusive and inclusive method of classification of Data.
  - c) Diagrammatic Presentation of Data: -  
Bar Diagrams, Pie Diagram, Line Diagram, Pictogram, Cartogram or Statistical map.
  - d) Graphical representation of a Frequency distribution - Histogram, Frequency-Polygon, Frequency curve, ogives or cumulative frequency curves.
- 6) Measures of central tendency or measures of Location - Mean, Median Mode in ungrouped & grouped series. Partition Values - Quartiles, Deciles, Percentiles in ungrouped & grouped series. Graphical Determination of Median, Mode & partition values.
- 7) Measures of Dispersion or Variation - Range, Mean Deviation, Standard Deviation.
- 8) Measures of Skewness - Pearson's and Bowley's coefficient of Skewness.
- 9) Probability - Random experiment, sample space, events, probability of an event, addition & multiplication laws of probability, use of permutations & combinations in calculation of probabilities, random variable, probability distribution of a random variable, Binomial Distribution.
- 10) Normal Distribution & Characteristics of Normal curve.

SECTION-B (BIOSTATISTICS)

- 11) Correlation - Bivariate distribution, scatter diagram, coefficient of correlation, calculation & Interpretation of correlation coefficient.
- 12) Regression - Lines of regression, calculation of Regression coefficient.
- 13) Sampling - Methods of Sampling.
- 14) Sampling Variability & significance - Sampling Distribution, Standard error, null hypothesis, alternative hypothesis, Type I & Type II errors, tests of significance, acceptance & rejection of null hypothesis, level of significance, Z test, t test (paired & unpaired), chi-square test.
- 15) Estimation of confidence limits & intervals.
- 16) Vital Statistics
  - 1) Rates & ratios of vital events.
  - 2) Measures of Mortality: - Crude Death Rate, Specific Death Rate, Age Specific Death Rate, Standardized Death Rates, Infant Mortality Rate.
  - 3) Measures of Fertility: - Crude Birth Rate, General Fertility Rate, Specific Fertility Rate, Age Specific Fertility Rate, And Total Fertility Rate.

- 4) Measurement of Population Growth: - Crude Rate of Natural Increase & Pearl's Vital Index, Gross Reproduction Rate, Net Reproduction Rate.
- 5) Measures of Morbidity: - Morbidity Incidence Rate, Morbidity Prevalence Rate.
- 6) Life Tables or Mortality Table.

#### SECTION C (RESEARCH METHODOLOGY)

Objectives:

- a) To develop skills of critical thinking and selection of research strategy.
- b) To acquire skills to review literature, formulate problems, research writing and publishing.

#### Clinical Research for Occupational Therapy Why? How? And When?

##### A) Research in Occupational Therapy

1. Introduction
2. Research - types, concept, definition.
3. Selection of aim and objectives.
4. Principles of methodology, analysis and report writing.

##### B) Concepts of Measurements:

1. Direct and indirect measurement variables.
2. Reliability and validity.
3. Application of Occupational therapy tests and measurements.

##### C) Research Design:

1. Principles of designing.
2. Methods - Descriptive, Exploratory, single subject, others.
3. Design models utilized in physiotherapy.
4. Design of model for fundamental and clinical research.

##### D) Interpretation of experimental findings:

1. Collection and Interpretation data theory.
2. Data review.
3. Interpretation of fundamental and clinical research.

#### Suggested Readings:

S. No.	Author	Title	Publisher	Year	Vol.
1	Armstrong, H.B.	Critical Moments in Quantitative Research	Butter worth- Heine, Oxford	2001	
2	Hollis, M. and Cook, P.F.	Practical Exercise Therapy	CBS, New Delhi	1999	
3	Gardiner, Dena	Principles of Exercise Therapy	CBS, New Delhi	1999	
4	Lippert, Lynn	Clinical Kinesiology for Physical Therapy	Jaypee New Delhi	1996	
5	Pagliarulo, M.A.	Introduction to Physical Therapy	Mosby, London	2001	
6	Jones,	Human Movement Explained	Butterworth Heine	2000	

Section - I

NEUROLOGY

1. Examination of neurological disorders and principles of treatment
2. Knowledge of various investigative procedures used in diagnosis of neurology disorders
3. Development programs, reduction techniques and substitution therapy in various conditions. approach like: Bobath, Rood, Bio-feedback etc. Gait training etc. Cognito-motor perceptual skills evaluation, Scales used, training & model of cognitive Rehab.
4. Review of pathological changes and principles of management by occupational therapy of the following conditions.
  - a) Hemiplegia, paraplegia, tabes dorsalis, cerebellar ataxia extra pyramidal lesions. GBS, Parkinsonism etc.
  - b) Disseminated sclerosis, amyotrophic lateral sclerosis, syringomyelia, sub-acute combined degeneration of cord, motor neuron diseases, Myasthenia gravis & other demyelinating diseases
  - c) Cranial nerve lesions & Dysphagia
  - d) Neuritis and Neuralgia
  - e) Infections- poliomyelitis, meningitis, encephalitis & HIV
  - f) Neuropathies and myopathies
  - g) Spinal cord injury
  - h) Peripheral nerve injuries

Section - II

NEUROSURGERY

1. Indication, contraindications and brief procedures of common neurosurgeries.
2. Pre and post operative O.T. assessment and management
3. Complications of neurosurgeries and their precautions and management
4. Electrodiagnostic procedures, prognosis etc. in various neurosurgical procedures.



Name of Books with Authors

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3	Occupational Therapy by "Turner"	
4	OT for Physical Dysfunction by "Pederitti"	5th
5	Neurological Rehabilitation by "Umphred"	
6	Neurological Assessment by "D'Jongs"	
7	Clinical Neurology by "Brain & Bannister"	

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FOURTH YEAR

Occupational Therapy in Orthopaedic Conditions

Course Code: BOT 404

L - 3

T/P - 0

CREDITS - 6

1. General Occupational Therapy approach
2. Effects of different therapeutic modalities in various traumatic conditions.
3. Principles of fracture management including OT at different stages.
4. Prevention and management of complication of fractures.
5. Dislocation signs, symptom, common sites, assessment and therapeutic management.
  - (a) Fracture of upper limb
  - (b) Fracture of lower limb
  - (c) Fracture of spine with or without neurological involvement
6. Assessment and therapeutic management of :  
Soft tissue injuries, sprains, strains, cartilage tear, ligament rupture, VIC, synovitis and capsulitis with emphasis on major joints.  
Tendon injuries – flexor & Extensor tendon injuries, Etiology various surgical procedures in brief & OT management splinting.
7. Assessment and infective conditions:
  - i) Osteoarthritis
  - ii) Spondylitis and spondylosis
  - iii) Spondylolistheses & Spondylolysis
  - iv) PIVD
  - v) Periarthritis, rotator cuff lesions of shoulder
  - vi) Perthe's disease
  - vii) Rheumatoid arthritis
  - viii) Ankylosing spondylitis
  - ix) Tuberculosis of the spine, bone and major joints
  - x) Other relevant conditions
8. Assessment management and treatment goals of the following deformities:
  - a) Congenital
    - (i) Torticollis, cervical rib
    - (ii) CTEV, pes cavus, pes planus
    - (iii) congenital anomalies of upper & lower limb & spine
  - b) Acquired
    - i) Scoliosis, Kyphosis, lordosis
    - ii) Coxa vara, genu valgum varum & genu recurvatum
9. Assessment, management and treatment goals of amputation :
  - a) Levels of amputation in upper & lower limbs
  - b) Stump care bandaging, pre and post prosthetic assessment and training
  - c) Prosthetic check out
  - d) Complications and their management
10. Crush Injuries of Hand – Assessment using standardized tool of hand function, pre & post OT

# Name of Books with Authors

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1	Text Book of Occupational Therapy by "Willard & Speckman"	8,9, 10th
2	OT in Physical Dysfunction By "Catherine & Trombley"	4th & 5th
3	Occupational Therapy by "Turner"	
4	OT for Physical Dysfunction by "Pederitti"	5th
5	Rehabilitation of Fractures by "Hoppin Field"	
6	Orthopaedic Rehabilitation by "Brotzman"	
7	Text Book of Orthopadics by "Apley's"	
8	Hand Rehabilitation by "Hunter"	
9	Orthopaedic Condition By "Ebnezer"	

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FOURTH YEAR

Occupational Therapy in Psychiatric Conditions

Course Code: BOT 405

L - 2

T/P - 0

CREDITS - 4

1. Profession & Historical perspectives.
2. Domains of Concerns
  - a) Performance Components.
  - b) Occupational Performance
  - c) Life Cycle
  - d) Environment : Cultural, Social Physical Environment
3. Tools of Practice
  - a) Non Human Environment
  - b) Conscious Use of Self.
  - c) Teaching & Learning Processes
  - d) Purposeful Activities
  - e) Activity Analysis & Synthesis.
  - f) Groups( Therapeutic)
4. Evaluation & Intervention.
  - a) Evaluation
  - b) Evaluative Tools.
  - c) Termination & Discharge Planning.
  - d) Communication.
5. Change Process.
  - a) Frames of References.
  - b) # Analytical F.O.R.
  - # Developmental F.O.R.
  - # Acquisitional F.O.R.
6. Areas of Specialization.

Mental Health

  - i) Disorders usually diagnosed in Infancy, Childhood, Adolescence.
  - ii) Delusion, Dementia, Amnesia & Other Cognitive Disorders.
  - iii) Substance Related Disorders
  - iv) Schizophrenia & other psychotic Disorders
  - v) Mood Disorders
  - vi) Anxiety Disorders
  - vii) Somatoform Disorders
  - viii) Dissociative Disorders
  - ix) Sexual & Gender Identity Disorders
  - x) Adjustment disorders
  - xi) Personality Disorders

Physical Disabilities

Developmental Disabilities and Child Abuse & Neglect

Gerontology

Pain Management

management of Tendon & n. injuries & their repair & splints.

## SECTION - II

### ORTHOPAEDIC SURGERY

Pre and post operative assessment and management of surgeries like :

- a) Osteotomy, Arthrodesis, Arthroplasty, joints replacements
- b) Tendon transplant, soft tissue release, Grafting.
- c) Spinal stabilization, Re-attachment of limbs, Ilizarov's technique.
- d) Spinal surgeries. In C.P. & Polio

7. Practice Settings – Half way home, child guidance clinic, sheltered workshop, day care centre, Acute care Psychiatry.
8. Trends Effecting Occupational Therapy  
Spirituality, Dance Therapy Music Therapy  
Recreational Therapy, Biofeedback, Yoga

# Name of Books with Authors

S.No.	Name of Books with Authors	Edition
1	Psychosocial Components by "Mosey"	
2	Short Term Psychiatry by "Moya Wilson"	8,9, 10th
3	Long Term Phychiatry by "Moya Wilson"	4th & 5th
4	Rehabilitation of Psychiatric Condition by "Mary Beth Early"	
5	Psychiatric Conditions by "Kaplan"	5th
6	Text Book of Psychiatry by "MS Bhatia"	
7	Text Book of Psychiatry by "Neeraj Ahuja"	



GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI  
BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FOURTH YEAR

Occupational therapeutic in Neurological Conditions

Course Code: BOT 452

L - 0

T/P - 5

CREDITS - 5

Occupational therapy evaluation and assessment using standardized and non-standardized methods.  
Setting goals for intervention based on the Models and Frames of references  
Clinical demonstration of the approaches used  
Treatment planning, implementation, termination and follow-up.

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FOURTH YEAR

Occupational therapeutic in Orthopaedic Conditions

Course Code: BOT 453 L - 0 T/P - 5 CREDITS - 5

Occupational Therapy evaluation and assessment using standardized and non-standardized methods.  
Setting goals for intervention based on the Models and Frames of references  
Clinical demonstration of the approaches used  
Treatment planning, implementation, termination and follow-up.

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FOURTH YEAR

Occupational therapeutic in Psychiatric Conditions

Course Code: BOT 454

L - 0

T/P - 5

CREDITS - 5

Occupational Therapy evaluation and assessment using standardized and non-standardized methods.  
Setting goals for intervention based on the Models and Frames of references  
Clinical demonstration of the approaches used  
Treatment planning, implementation, termination and follow-up.

GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF OCCUPATIONAL THERAPY (BOT)

FOURTH YEAR

PROJECT WORK\*

Course Code: BOT 455 L - 0 T/P - 3 CREDITS - 3

Course objective:

The student will be doing specific case studies allotted by their teacher/guide. Subject is for Case Presentations and evaluations.

Minimum 5- 10 cases are to be documented for discussion.

EXAMINATION

\*There will be no university examination. Students will be assessed on the basis of Viva on his/her project work and the awards so secured by them will be sent to University.

## INTERNSHIP GUIDELINES (AMENDED)

- Candidates seeking entry to the internship period must have passed all examinations in all subjects (i.e. He/She must have secured total credits of the Programme).
- Duration: 6 months inclusive of posting in rural setup/CBR/similar setup
- During the internship candidate shall have to work full time average 7 hours per day (each working day) for 6 Calendar months (total Credit hours - 1260).
- Each candidate is allowed maximum of 6 holidays during entire Internship Programme and in case of any exigencies during which the candidate remains absent for a period more than 6 days, he/she will have to work for the extra days during which the candidate has remained absent.
- Assessment: The interns/candidate shall maintain the record of work, which will be verified and certified by the Head of the Department under whom he/she works. Apart from scrutiny of the record of work, the Head of the Department shall undertake assessment and evaluation of training in attendance, discipline, knowledge, skills and attitude for the duration of training. The assessment report of the candidate shall be sent to the Parent institution.
- Based on the record of work and date of evaluation the Director/Principal shall issue 'Certificate of Satisfactory Completion' of training following which the University shall award the Bachelor of Occupational Therapy Degree or declare the candidate eligible for the same.
- In the event of unsatisfactory report, the said intern shall have to repeat the internship for the period to be decided by the Head of the Institution concerned.
- Intern will abide by all the rules & regulations of Institution/Hospital where they are posted.
- Intern shall be responsible for proper use of equipments of the Institute/Hospital where they are posted. He/She shall be liable to pay for damages caused to the equipments resulting from improper use by him / her.
- Internship duration can be extended by the Principal / Director on the grounds:
  - i. Remaining absent in excess of the permitted 6 days leave period, which is due: An intern will compensate by working extra for each day leave taken.
  - ii, Unsatisfactory performance during the period: If there are unsatisfactory reports in terms of performance of the intern, submitted by the Department In-charge, the said intern shall have to repeat the internship for a period at least two months further.
  - iii, Case of indiscipline at any level: A Discipline and Action Committee will be formed in the college / Institution convened by Internship coordinator/HOD OT- & headed by Director/Principal. In case of any lack of discipline, breach of trust or indulgence in any criminal activity on the part of the interns when reported by the concerned departments of Hospitals/Institutions where the interns have been posted, the defaulting Intern shall be called back immediately and subjected to disciplinary proceedings by the Disciplinary Action Committee.
  - iv. Punishments:
    - a. Suspension of Internship for a period of 3-4 weeks for the reasons to be recorded, Following this disciplinary suspension, internship can be resumed only after submission of an appropriate undertaking/guarantee/surety, Period of suspension shall be considered as Break in Internship, Disciplinary Action Committee shall decide the period of suspension and resumption of internship for a specified period.
    - b. Rustication & Termination: In case of a serious complaint of indiscipline or breach of trust against intern or- any criminal activity done by intern according to the law of the country, he/she may be rusticated along with termination of Internship,

Hon'ble Court of Law can resume the Internship in this case only on the abrogation of criminal charges against him.

Institution shall have to satisfy themselves that satisfactory infrastructure facilities of Occupational Therapy exist in the Institute / Hospital where the internship training has to be undertaken. Following parameters / guidelines have been suggested:

- a. It is mandatory for the Institution conducting BOT Programme to have its own Occupational Therapy clinic fully furnished with all the necessary equipments as per the curriculum of the Programme.
- b. The Institutes & the Hospitals should have the Occupational Therapy section with all the necessary infrastructure facilities.
- c. Senior Occupational Therapist with sufficient clinical experience should manage the Occupational Therapy departments in the Institutes / Hospitals.
- d. Institute Director / principal can at his discretion grant NOC to the students to do the Internship at the place of his choice provided, the concerned Hospital fully satisfies It the above criteria. For the purpose of granting NOC the candidate shall have to submit to the Institution the status of Occupational Therapy Services available at the place where he intend to do his Internship.

Evaluation of Students under Practical internship

S.No.	Description	Satisfactory/ Unsatisfactory
1.	Attendance	
2.	Discipline and general behaviour in the Department	
3.	Approach to patients	
4.	Inquisitiveness regarding the subject	
5.	Knowledge about evaluation of conditions	
6.	Knowledge about various therapeutic modalities	
7.	Knowledge about actual application of therapeutic skills.	

