AmbujaNeotia

THE NEOTIA UNIVERSITY

ज्ञानम् आत्म प्रदीपाय

UGC Enlisted & Recognised

THE NEOTIA UNIVERSITY (TNU)

Bachelor of Physiotherapy

(BPT)

BACHELOR OF PHYSIOTHERAPY								
SL	**COURSE CODE**	**COURSE TYPE**	**PAPER NAME**	**CONTACT HOURS (PERIODS/WEEK)**				
SEMESTER -1				**L**	**T**	**P**	**TOTAL**	**CREDITS**
1	BPT-101	CC1	ANATOMY I	3			3	3
2	BPT-102	CC2	PHYSIOLOGY I	3			3	3
3	BPT-103	CC3	INTRODUCTION TO PHYSIOTHERAPY	4			4	4
4	BPT-104	CC4	SOCIOLOGY	2			2	2
5	BPT-105	DSE1	BIOCHEMISTRY	3			3	3
6	BPT-106	AECC1	ENGLISH COMMUNICATION	2			2	2
	TOTAL THEROY							**17**
1	BPT-171	CC	ANATOMY I			4	4	2
2	BPT-172	CC	PHYSIOLOGY I			4	4	2
TOTAL PRACTICAL								**4**
SEMESTER 1 : TOTAL CREDIT 21								
SEMESTER -2								
1	BPT-201	CC5	ANATOMY II	3	1		4	4
2	BPT-202	CC6	PHYSIOLOGY II	3	1		4	4
3	BPT-203	CC7	FUNDAMENTALS OF BIOMECHANICS, EXERCISE THERAPY ,ELECTEOTHERAPY	2	1		3	3
4	BPT-204	CC8	PSYCHOLOGY	2			2	2
5	BPT-205	AECC2	ENVIROMENTAL HEALTH	2			2	2
	TOTAL THEROY							**15**
1	BPT-271	CC	ANATOMY II			4	4	2
2	BPT-272	CC	PHYSIOLOGY II			4	4	2
TOTAL PRACTICAL								**4**
SEMESTER 2 : TOTAL CREDIT 19								
SEMISTER -3								
1	BPT-301	DSE2	MICROBIOLY	2			2	2
2	BPT-302	DSE3	PATHOLOGY	3			3	3

3	BPT-303	CC 9	BIOMECHANICS & KINAESIOLOGY I	3	1		4	4
4	BPT-304	CC 10	EXERCISE THERAPY I	3			3	3
5	BPT-305	CC 11	ELECTROTHERAPY I	3			3	3
TOTAL THEROY								**15**
1	BPT-371	CC	BIOMECHANICS & KINAESIOLOGY I			4	4	2
2	BPT-372	CC	EXERCISE THERAPY I			4	4	2
3	BPT-373	CC	ELECTROTHERAPY I			4	4	2
TOTAL PRACTICAL								**6**
SEMESTER 3 : TOTAL CREDIT 21								
SEMESTER 4								
1	BPT-401	DSE4	PHARMACOLOGY	3			3	3
2	BPT-402	CC12	BIOMECHANICS & KINAESIOLOGY II	4			4	4
3	BPT-403	CC13	EXERCISE THERAPY II	3	1		4	4
4	BPT-404	CC14	ELECTROTHERAPY II	3	1		4	4
5	BPT-405	SEC1	BIOTATISTICS	2			2	2
TOTAL THEROY								**17**
1	BPT-471	CC	BIOMECHANICS & KINAESIOLOGY II			4	4	2
2	BPT-472	CC	EXERCISE THERAPY II			4	4	2
3	BPT-473	CC	ELECTROTHERAPY II			4	4	2
TOTAL PRACTICAL								**6**
SEMESTER 4 : TOTAL CREDIT 23								
SEMESTER 5								
1	BPT-501	CC15	ORTHOPAEDICS I	3			3	3
2	BPT-502	CC16	NEUROLOGY I	3			3	3
3	BPT-503	CC17	GENERAL MEDICINE I INCLUDING CARDIO-RESPIRATORY DISORDERS	3			3	3

4	BPT-504	CC18	GENERAL SURGERY INCLUDING CARDIOTHORACIC SURGERY	3			3	3
5	BPT-505	SEC2	COMMUNITY MEDICINE	2			2	2
TOTAL THEROY								**14**
1	BPT-571	CC	ORTHOPAEDICS I			4	4	2
2	BPT-572	CC	NEUROLOGY I			4	4	2
3	BPT-573	CC	GENERAL MEDICINE I INCLUDING CARDIO-RESPIRATORY DISORDERS			4	4	2
4	BPT-574	CC	GENERAL SURGERY INCLUDING CARDIOTHORACIC SURGERY			4	4	2
TOTAL PRACTICAL								**8**
CLINICAL OBSERVATION								
SEMESTER 5: TOTAL CREDIT 22								
SEMESTER 6								
1	BPT-601	CC19	ORTHOPAEDICS II AND SPORTS INJURY	3			3	3
2	BPT-602	CC20	NEUROLOGY II INCLUDING NEUROSURGERY	3			3	3
3	BPT-603	CC21	GENERAL MEDICINE II & PAEDIATRICS	3			3	3
4	BPT-604	CC22	PLASTIC SURGERY & OBSTETRICS & GYANACOLOGY	3			3	3
5	BPT-605	CC23	PHYSICAL FUNCTIONAL ASSESSMENT & ICF THEORY	3			3	3
TOTAL THEROY								**15**
1	BPT-671	CC	ORTHOPAEDICS II AND SPORTS INJURY			4	4	2

2	BPT-672	CC	NEUROLOGY II INCLUDING NEUROSURGERY			4	4	2
3	BPT-673	CC	GENERAL MEDICINE II & PAEDIATRICS			4	4	2
4	BPT-674	CC	PLASTIC SURGERY & OBSTETRICS & GYANACOLOGY			4	4	2
5	BPT-675	CC	FUNCTIONAL ASSESSMENT			4	4	2
TOTAL PRACTICAL								**10**
CLINICAL OBSERVATION								
SEMESTER 6: TOTAL CREDIT 25								
SEMESTER 7								
1	BPT-701	CC24	PHYSIOTHERAPY IN ORTHOPAEDICS I	3			3	3
2	BPT-702	CC25	PHYSIOTHERAPY IN NEUROLOGY I	3			3	3
3	BPT-703	CC26	PHYSIOTHERAPY IN GENERAL MEDICINE I	3			3	3
4	BPT-704	CC27	PHYSIOTHERAPY IN GENERAL SURGERY INCLUDING CARDIOTHORACIC SURGERY	3			3	3
5	BPT-705	CC28	PHYSIOTHERAPY IN CARDIOVASCULAR PULMONARY AND INTENSIVE CARE I	3			3	3
6	BPT-706	GE1	RESEARCH METHODOLOGY	2	1		3	3
TOTAL THEROY								**18**
1	BPT-771	CC	PHYSIOTHERAPY IN ORTHOPAEDICS I			4	4	2
2	BPT-772	CC	PHYSIOTHERAPY IN NEUROLOGY I			4	4	2
3	BPT-773	CC	PHYSIOTHERAPY IN GENERAL MEDICINE			4	4	2

4	BPT-774	CC	PHYSIOTHERAPY IN GENERAL SURGERY INCLUDING CARDIOTHORACIC SURGERY			4	4	2
	BPT-775	CC	PHYSIOTHERAPY IN CARDIOVASCULAR PULMONARY AND INTENSIVE CARE I			4	4	2
TOTAL PRACTICAL								**10**
CLINICAL PRACTICE								
SEMESTER 7: TOTAL CREDIT 28								
SEMESTER 8								
1	BPT-801	CC29	PHYSIOTHERAPY IN ORTHOPAEDICS II	3			3	3
2	BPT802	CC30	PHYSIOTHERAPY IN NEUROLOGY II	3			3	3
3	BPT-803	CC31	PHYSIOTHERAPY IN PAEDIATRICS	3			3	3
4	BPT-804	CC32	PHYSIOTHERAPY IN OBSTETRICS &GYNECOLOGY	3			3	3
5	BPT-805	CC33	PHYSIOTHERAPY IN CARDIOVASCULAR PULMONARY AND INTENSIVE CARE II	3			3	3
6	BPT-806	CC34	REHABILITATION & DISABILITY PREVENTION	3			3	3
TOTAL THEROY								**18**
1	BPT-871	CC	PHYSIOTHERAPY IN ORTHOPAEDICS II			4	4	2
2	BPT-872	CC	PHYSIOTHERAPY IN NEUROLOGY II			4	4	2
3	BPT-873	CC	PHYSIOTHERAPY IN PAEDIATRICS			4	4	2
4	BPT-874	CC	PHYSIOTHERAPY IN OBSTETRICS & GYANACOLOGY			4	4	2

5	BPT-875	CC	PHYSIOTHERAPY IN CARDIOVASCULAR PULMONARY AND INTENSIVE CARE II			4	4	2
6	BPT-876	CC	REHABILITATION & DISABILITY PREVENTION			4	4	2
TOTAL PRACTICAL								**12**
CLINICAL PRACTICE								
SEMESTER 8: TOTAL CREDIT 30								
COMPULSORY INTERNSHIP OF 6 MONTHS Project Report on Internship/Defence of Project – 20 Credit								
TOTAL COURSE CREDIT=209								

SYLLABUS OF

FIRST SEMESTER

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY SECOND SEMESTER

ANATOMY-I

Course Code: BPT – 101

Goal – To provide the student with the necessary Anatomical knowledge & skills to practice as a qualified Physiotherapist

1] GENERAL Anatomy

Including Histology – Basic tissues like epithelial, Connective, muscular, nervous, system.

2] MUSCULOSKELETAL Anatomy [dissection / prosection mandatory]

i) Superior extremity with shoulder girdle

ii) Inferior extremity with pelvic girdle & pelvic floor muscles

iii) Spine, head & neck

iv) Facial muscles & T.M. joint

v) Surface Anatomy

Objectives- MUSCULO –SKELETAL

i) The student should be able to identify & Describe Anatomical aspects of muscle bones & joints, & to understand and Analyze movements.

ii) To understand the Anatomical basis of various clinical conditions e.g. trauma, deformities, pertaining to limbs & spine.

iii) To be able to localize various surface land-marks;

iv) To understand & describe the mechanism of posture & gait the. Anatomical basis of abnormal gait.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY SECOND SEMESTER

ANATOMY-I

Course Code: BPT – 171 (PRACTICAL)

1. 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.

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

3. Demonstration of skeleton articulated and disarticulated.

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

PRACTICAL EXAMINATION

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

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) FIRST SEMESTER

PHYSIOLOGY I

Course Code: BPT – 102

Objectives - At the end of the course, the candidate will- 1] Acquire the knowledge of the relative contribution of each organ system in maintenance of the milieu interior [Homeostasis] 2] Be able to describe physiological functions of various systems, with special reference to Musculo-skeletal, Neuro-motor, Cardio-respiratory ,Female uro-genital function, & alterations in function with aging

3] Analyse physiological responses & adaptation to environmental stresses-with special emphasis on physical activity, temperature

4] Acquire the skill of basic clinical examination, with special emphasis to Peripheral & Central Nervous system, Cardiovascular & Respiratory system, & Exercise tolerance / Ergography.

1] GENERAL Physiology—— [only short notes]

2] BLOOD – Rh – A B O system - & mismatch-transfusion [composition & function]

3] - NERVE**i]** - Structure, classification properties; **ii]** R.M.P. **iii]** Action Potential; **iv]** - Propagation of Nerve Impulse **v]** Degeneration & Regeneration **vi]** - Reaction of Degeneration [Retrograde]
4] - MUSCLE**i]** - Structure - Properties – Classification – Excitation / Contraction Coupling **ii]** - Motor Unit - E.M.G. - Factors Affecting Muscle Transmission – **iii]**Neuro-Muscular Transmission
5]C.N.S**i]** -Receptor Physiology-Classification & Properties; **ii]** -Synapse-Structure, Properties, & Transmission; **iii]** -Reflexes–Classification & Properties; **iv]** -Sensory & Motor Tracts-Effect of Transection [-Complete & Incomplete] at Various Levels; **v]** - Physiology of Touch, Pain, Temperature & Proprioception; **vi]** -Physiology of Muscle Tone [Muscle Spindle]**vii]**-Labyrinth; **viii]** -Function of Basal Ganglia, Thalamus, Hypo-Thalamus, Pre-frontal lobe, P.A.S., **ix]** Sensory /Motor Cortex; x] -Limbic System; **xi]** -Learning, Memory & Condition Reflex, **xii]** -Physiology of Voluntary Movement
6] - EXCRETORYSystem**i]** - Kidneys-[short note]-Structure Function; **ii]** - Urine Formation; **iii]** Micturition –Neural Control-Neurogenic Bladder

7] Digestive System- Brief Outline of Human G.I.T. and Associate Glands.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) FIRST SEMESTER

Course Code: BPT – 172 PRACTICAL PHYSIOLOGY-I

1] -Haematology – Demonstration only [TRBC, TWBC, ABO Blood Group, ESR, HB%, CT, BT] i] -Breath Holding ii] -Mercury Column Test

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY FIRST SEMESTER

INTRODUCTION TO PHYSIOTHERAPY

Course Code: BPT – 103

1. Development of Physical Therapy

a. History **b.** Role of the Physiotherapist **c.** Philosophy **d.** Purpose

2. Medico-legal Aspects of Practice, Legal Terminology, Physiotherapy under the purview of Consumer Protection Act.

3. Professionalism and Professional Ethics

a. Professional Behaviours, **b.** Professional Ethics, **c**. Guidelines for the PT Practices,

d. Standards of Practice, **e.** Core Values

4. Multidisciplinary Team Approach

a. Roles of Other Health Care Providers, **b**. Health Care Facilities (Types & Funding)

5. Organization of Physical Therapy Services

a. Lines of Authority and Responsibility, **b.** Job Descriptions, **c**. Policies and Procedures, **d**. Performance Evaluations, **e**. Grievance Procedures, **f**. Fiscal Considerations

6. Quality Assurance and Risk management - Physical Therapy for a variety of conditions

7. Common Disabilities - **a.** Hemiplegia, **b.** Spinal Cord Injury, **c.** Parkinson's Disease, **d.** TBI **e**. Arthritis & Other

8. Principles of Patient Care - **a**. Medical Asepsis, **b.** Body Mechanics, **c**. Wheelchairs **d.** Transfers/Lifts, **e.** Tilt Table

9. Recommendations to guide clinical Physiotherapy practice (brief idea) in COVOD 19 .SARS etc.

10. Management and prevention of pressure ulcers

11. Positioning and Draping

12. Passive ROM and active exercise

13. Vital signs

14. Assistive devices and gait patterns

15. Equipment in the patient care environment

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) FIRST SEMESTER

SOCIOLOGY

Course Code: BPT – 104

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 roll 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. Social change and health Program.

3. The role of social planning in the improvement of health and in rehabilitation.

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.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY FIRST SEMESTER

BIOCHEMISTRY

Course Code: BPT – 105

1.Cell Biology-Membrane, structure ; function, Junction of intracellular organelle in brief-[no structural details needed]

2.Carbohydrates - definition, classification with examples, functions of carbohydrates [in details]Mucopolysaccharides, Krebs cycle-its energetics &; regulation- role of T.C.A. cycle, Glycogenesis, glycogenolysis; their regulation-role of liver in muscle glycogen, gluconeogenesis-significance of H.M.P. shunt, hormonal regulation of blood sugar levels-Important metabolic disorders of glycogen, lactose intolerance, Diabetes mellitus.

3.Protein - definition-function-classification of Amino acids-protein structure-effect of temperature on proteins, Detoxification of ammonia including urea cycle; - Neuro- transmitters nobio-synthesis]

4.Lipids -definition-classification-[including fatty acids with examples]-function,Metabolism- Digestion &; absorption of lipids ,cholesterol &; its importance[no biosynthesis needed], classification, sources &; function of lipoproteins-lipoproteinemia atherosclerosis, fate of acetyl-CoA in-[no details of reaction & pathways], cholesterol biosynthesis ,Ketogenesis ,T.C.A, Fate of Glycerol in-[pathways &; reaction not required]

Gluconeogenesis, Energy [glycolysis], Triglycerides, phospholipid synthesis, Neuro - transmitters, phospholipid synthesis (outline)

5.Nuclic Acids - D.N.A./R.N.A.-definition-structure &function-types.

6.Enzymes - Definition, Co-Enzymes-classification-factors affecting, general metabolism of enzymes [in brief], Inhibition & types of inhibitors, Iso-enzymes, clinical & therapeutic use of enzymes.

7.Vitamins - water & Fat soluble-definition-classification, individual vitamins, sources -Co-enzyme forms- function-reaction related to metabolism covered, RDA, absorption-& transport-deficiency; toxicity

8.Minerals-Phosphate, calcium, & iron (in details), magnesium, fluoride, Zink, Copper, Selenium Molybdenum, Iodine-sources, RDA, absorption-transport-excretion function disorder (outline)

9.Acid- Base Balance, Water, Electrolyte - Body water, pH-osmolarity Extra & Intra cellular fluid, Buffers-pH, buffer system in blood, Role of kidneys & lungs in acid-base balance, water- electrolyte balance imbalance-dehydration.

10. Hormones -Definition-classification-mechanism action, second messenger [Ca, cAMP, inositol phosphate, metabolic effects of a]-Insulin, b]-Glucagon, c]-Catecholamines, d]-Thyroxine e] -Mineral-corticoids, f]-glucocorticoids

11. Muscle Contraction - Contractile elements, Biochemical events during contraction, energy metabolism in skeletal & cardiac muscle.

12. Connective Tissue - Biochemistry of connective tissue-collagen – Glyco-protein – proteoglycans.

13. Nutrition -Importance of nutrition -Calorimetry-energy value-calorimeter-respiratory quotient its significance ,Basal metabolic rate-definition-normal values-factors affecting BMR ,energy requirement-with-age/sex/ thermogenesis/-specific dynamic action of food, energy expenditure for various activities, Composition of food, balanced Diet dietaryrecommendations nutritional supplementation- nutritional value of carbohydrates/proteins/fats & Fibres, Nitrogen balance &its significance-Protein energy, Malnutrition-Kwashiorkor &Marasmus

14. Clinical Biochemistry(outline) -Liver function test &Renal function test;Relevance of blood levels of glucose, urea, Calcium-Phosphate-; uric acid, Enzymes-Amylase, CPK, LDH, isoenzymes,Lipid profile-Tri- glyceride, cholesterol/HDL/LDL/ALDL Protein Aggression - Glycosuria

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY FIRST SEMESTER

ENGLISH COMMUNICATION

COURSE CODE-BPT-106

Major topics to be covered under Communication course –

1. Basic Language Skills: Grammar and Usage.
2. Business Communication Skills. With focus on speaking - Conversations, discussions, dialogues, short presentations, pronunciation.
3. Teaching the different methods of writing like letters, E-mails, report, case study, collecting the patient data etc. Basic compositions, journals, with a focus on paragraph form and organization.
4. Basic concepts & principles of good communication
5. Types & process of communication – verbal, non-verbal and written communication. Upward, downward and lateral communication.
6. Communication methods for teaching and learning.
7. Barriers of communication & how to overcome.

SYLLABUS OF

SECOND SEMESTER

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SECOND SEMESTER

ANATOMY-II

Course Code: BPT – 201

1] In NEURO – Anatomy (Objective)

i) To identify various parts of C.N.S. – forebrain, Midbrain, Hind-brain Brain stem, courses of cranial nerves; functional components, course distribution. Anatomical bases of clinical lesions: ii) To describe the source & course of spinal tracts; iii) To describe blood circulation of C.N.S. spine; iv) Be able to identify the components of various Trans – sections.

NEURO –Anatomy(Syllabus)

i) General organization of C.N.S.ii) Cranial nerves iii) Peripheral nervous system iv) C.N.S.

2] THORAX – to identify & describe various components of the contents of the Thorax – with special emphasis to tracheo-bronchial tree, cardio – pulmonary system.

3] CIRCULATORY – I) be able to identify describe the sourcecourse of major arterial venous Lymphatic system, with special emphasis to extremities, Spine Thora

4] SYSTEMIC ANATOMY – i. Elementary system

ii. Uro –genital system [special emphasis to Female organs]

iii. Micro – Anatomy (cartilage, bone, nerve, muscle)

iv. Cardio – vascular [including Lymphatic]

v. Respiratory system

vi. Neuro – muscular junction

vii. Axial skeletal

viii. Appendicular system

ix. Sensory organs,

x. Endocrine, xi. Radiological

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SECOND SEMESTER

ANATOMY-II

Course Code: BPT – 271 (PRACTICAL ANATOMY-II)

1. Learning of surface landmarks with special emphasis on bones, joints, muscles, and nerves.

2. The learning of anatomy is by demonstration only through dissected parts, slides, models, charts, etc.

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

4. Demonstration of skeleton articulated anddisarticulated.

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

PRACTICAL EXAMINATION

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

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SECOND SEMESTER

PHYSIOLOGY-II

Course Code: BPT – 202

Objectives-At the end of the course, the candidate will-

1] -acquire the knowledge of the relative contribution of each organ system in maintenance of the milieu interior [Homeostasis]

2] -be able to describe physiological functions of various systems, with special reference to Musculo-skeletal, Neuro-motor, Cardio-respiratory, Female uro-genital function, alterations in function with aging

3] -Analyse physiological responsesadaptation to environmental stresses-with special emphasis on physical activity, temperature

4] -acquire the skill of basic clinical examination, with special emphasis to Peripheral & Central Nervous system, Cardiovascular & Respiratory system, Exercise tolerance / Ergography.

Syllabus-

1] - TEMPERATURE REGULATION -i] -circulation of the skin –body fluid –electrolyte balance

2] - ENDOCRINE - i] -secretion- regulationfunction ofPituitary,thyroid,adrenal,parathyroidpancreas.

3] - REPRODUCTIVE SYSTEM

i] -Functions of Estrogen, ProgesteroneTestosterone ii]- Puberty Menopause

4] - SPECIAL SENSES i]- Eye-Errors of refraction-accommodation-reflexes-dark light adaptation- photosensitivity

5] – RESPIRATORY system i] -Introduction, general organization; ii] -Mechanics of respiration; iii] -Pulmonary Volumes capacities; iv] -Anatomical physiological Dead space-ventilation/perfusion ratio, alveolar ventilation v] - Transport of respiratory gases vi] -Nervous & Chemical control of respiration vii] -Pulmonary function tests-Direct indirect method of measurement; viii] -Physiological changes with altitude acclimatization

6] -CARDIOVASCULAR -i] -structure properties of cardiac muscle;

ii] -Cardiac cycle;

iii] -Heart rate regulation- factors affecting;

iv] -Blood pressure –definition-regulation-factors affecting;

v] -cardiac output- regulation function affecting;

vi] -Peripheral resistance, venousreturn

vii] -Regional circulation-coronary- muscular, cerebral

viii]- normal ECG.

7] - EXERCISE physiology

i] -Effects of acute chronic exercises-; ii] -oxygen /CO2 transport-O2 debt

iii]- effects of exercise on muscle strength, power, endurance, B.M.R., R.Q., - hormonal metabolic effects-respiratory cardiac conditioning iv]- Aging v] -Training- fatigue- recovery; vi]-Fitness-related to age, gender, body type

8] - A.N.S Sympathetic /parasympathetic system-adrenal medulla- functions- Neuro Transmitters-role in the function of pelvic floor – micturition, defecation labour

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SECOND SEMESTER

Course Code: BPT – 272 (PRACTICAL PHYSIOLOGY-II)

1] -Blood Pressure – effects of change in posture & exercise

2] Stethography-

I] -effect of deglutination; iI] -voluntary
hyperventilation

3] -Spirometry i] -Lung volumes ii] -timed vital capacity

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SECOND SEMESTER

FUNDAMENTALS OF BIOMECHANICS, EXERCISE THERAPY, ELECTROTHERAPY

Course Code: BPT – 203

All topics are for a brief description only

1. Basic Concepts of Biomechanics: Kinematics: Description of Motion, Types of Motion, Location of Motion, Direction and Magnitude of Motion Kinetics: Analysis of Forces, Definition, Force of Gravity, Reaction of Forces, Objects in Motion, Force of Friction, Concurrent Force Systems, Parallel Force Systems, Work, Moment arm of Force, Force Components, Equilibrium of Levers

2. Joint Structure and Function: Joint Design, Specific connective tissue structures, General Properties of Connective Tissue, Human Joint Design, Kinematic Chains, Arthrokinematics and Osteokinematics

3. Muscle Structure and Function: Mobility and Stability Functions of Muscles, Elements of Muscle Structure, Muscle Function, Effects of Immobilization, Injury and Aging on Muscle Tissues

4. Momentum - principles, and practicalapplication

5. Equilibrium - Supporting base, types, and equilibrium in static and dynamicstate

6. Levers - Definition, function, classification and application of levers in physiotherapy order of levers with example of lever in human body

7. Pulleys - system of pulleys, types andapplication

8. Elasticity - Definition, stress, strain, HOOKE'SLaw

9. Springs - properties of springs, springs in series and parallel, elastic materials inuse

SECTION –B

1. Introduction to Exercise therapy, Principles, techniques and general areas of its application, Assessment its importance,

2. Starting positions - Description and muscle work, Importance of fundamental and derived types, Effects and uses of individual positions

SECTION C -

1.Introduction to Therapeutic Energies – Thermal, Mechanical, Electrical, Electromagnetic and magnetic - Definition, description, physiological effects, pathological effects and dangers.

2.Effects of electric Current: Thermal effect, chemical effect and magnetic effect. Electric shock, Earth shock, causes and its prevention.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SECOND SEMESTER

PSYCHOLOGY

Course Code: BPT – 204

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. Motivation - theories and types of Motivation
4. Emotions - theories of Emotions and stress
5. Attitudes – theories, attitudes and behaviour, factors in attitude change
6. Personality, theories of personality, factors influencing personality
7. Development and growth of behaviour in infancy and childhood, adolescence, adulthood and old age
8. Behaviour - normal and abnormal
9. Counselling - Definition, Aims and principles
10. Psychotherapy – brief introduction to paradigms in psychopathology and therapy

SECTION – B

11. Psychological need of children and geriatric patients
12. Communication – effective and faulty
13. Personality Disorder
14. Severe psychological disorders – Mood disorders, psychosis

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SECOND SEMESTER

ENVIRONMENTAL HEALTH

Course Code: BPT – 204

Unit 1 : Multidisciplinary nature of environmental studies **2 L**

Definition, scope and importance

Need for public awareness.

8

UNIT 2 Ecosystem – Overview/ Concept of Ecosystem

UNIT 3 Environmental Pollution **6**

Definition Cause, 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

ii) Solid waste Management : Causes, effects and control measures of urban and industrial wastes.

iii) Role of an individual in prevention of pollution.

iv) Diaster management : floods, earthquake, cyclone and landslides.

UNIT 4 Environmental Physiotherapy

SYLLABUS OF
THIRD SEMESTER

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER

MICROBIOLOGY

Course Code: BPT – 301

1. General Microbiology-Introduction & scope Classification of Microorganisms & morphology of Bacteria,brief history of microbiology general characteristics and classification of bacteria fungi and viruses. Growth and nutrition of microbes.

2. Infection – Types, source, portals of entry, spread. Sterilization & disinfection [basic concepts] , hospital acquired infection, universal safety precautions, waste disposal, Uses and mode of action of antiseptics and disinfectants.

3. Immunology -Antigen-antibody reaction & application for diagnosis, Immune response normal/abnormal, Innate immunity, & acquired immunity [vaccination],Hyper-sensitivity & auto-immunity

4. Bacteriology (basic concepts) -Infection caused by gram +ve cocci; Gas gangrene-clostridium-Diphtheria, Mycobacterial infection- tuberculosis-Leprosy-Atypical Mycobacterium, syphilis-morphology & pathogenesis [VDRL]

5. Viruses (basic concepts) -Introduction & general properties, HIV, Hepatitis, Polio, measles, congenital viral infections, Rubella, CMV, Herpes

6. Mycology (basic concepts) -Mycetoma- Aspergillosis- candidiasis Parasites affecting C.N.S. Malaria- Filaria- Toxoplasma –Cystisarcosis&echinococcus

7. An outline of the following infectious diseases with respect to the causative organism, mode of transmission, pathogenesis, prevention, and diagnostic tests (details of the execution and interpretation of the tests not required)

8. Chicken Pox, Measles, Mumps, Influenza, Diphtheria, Whooping Cough, Tetanus, Tuberculosis, Leprosy, Rubella, Cholera, Gastroenteritis, Food Poisoning, Hepatitis, AIDS, Typhoid, Rabies, STD, Amoebiasis, Kalaazar, Malaria, Filaria.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER

PATHOLOGY

Course Code: BPT – 302

General Pathology -

1. Aims and objectives of the study of pathology. Meaning of terms, etiology, pathogenesis and lesions

2. Causes of disease and cell injury – features of cell injury, mechanism of cell injury – hypoxia, free radical injury. Necrosis and gangrene

3. Inflammation- definition, events of acute inflammation, chemical mediator of inflammation, morphological types of acute inflammation, chronic inflammation, difference between acute and chronic inflammation

4. REPAIR –primary healing, secondary healing, factors affecting healing and repair healing of skin, muscle and bone.

5. Fluid and hemodynamic derangements – oedema, hyperaemia, Haemorrhage, shock, embolism, thrombosis, infarction

6. Immunity – natural and acquired immunological mechanisms of tissue injury, hypersensitivity reactions, general features of autoimmune diseases and immunodeficiency diseases.

7. Neoplasia: characteristic of benign and malignant tumours, grading and staging of malignant tumours, a brief outline of the carcinogenic agents and methods of diagnosis of malignancy and general effects of malignancy on the host

8. Nutritional disorders: deficiency disorders (protein deficiency, vitamin deficiency (A, B, C, D, E,) causes, features, a brief outline of the methods of diagnosis.

Systemic Pathology: A brief outline of etiology, pathogenesis and general features of disease of the following systems. (The morphology, microscopic details and details of diagnostic procedures are not required).

1. Blood: Disorders of RBC, WBC and platelets, Atherosclerosis, thromboangitis obliterans, varicose vein, DVT, thrombophlebitis, lymphedema, Blood disorder -Anaemia, Leukaemia, Bleeding disorder.

3. Cardiovascular System: Heart disease. Coronary heart disease, Aneurysm, Atherosclerosis.
4.RespiratorySystem- Pneumonias, Bronchiectasis, Emphysema, Chronic bronchitis, Asthma, Tuberculosis COPD etc.

5. Joints Disorders: Arthritis- types and their features.

6. Bone Disorders: Osteoporosis, Paget's disease, Osteogenesis Imperfecta, Osteomyelitis, tumours–Osteosarcoma, Chondrosarcoma, Ewing's sarcoma, Multiple myeloma (a brief outline only)

7. Muscles: Muscular dystrophy, Myasthenia gravis

8. Nervous System: Meningitis, encephalitis, vascular diseases of brain, poliomyelitis, nerve injuries

Text book of Pathology-by Harsh Mohan

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER

BIOMECHANICS & KINESIOLOGY I

Course Code: BPT – 303

Including Basic Concepts of Biomechanics.

1. Biomechanics of Shoulder Complex: Components of shoulder complex, Integrated Function of Shoulder Complex, Mobility and Stability of Shoulder Complex, Structural and Functional Dysfunctions around Shoulder Complex.

2. Biomechanics of Elbow Complex: Structure and function of the Elbow Complex, Structure and Function of the superior and inferior Radio-ulnar Joints, Mobility and Stability of Elbow Complex, Effect of Immobilization and Injury

3. Biomechanics of the Wrist and Hand Complex: Structural components of the Wrist complex, function, structure and function of the Hand Complex, Finger Musculature, Functional Position of the Wrist and Hand.

4. Biomechanics of Vertebral Column: General structure and Function (Region wise), Mobility and Stability of Vertebral Column, Muscles of the Vertebral Column, Biomechanics pelvic girdle, General effects of Aging and Injury.

5. Biomechanics of Temporomandibular Joint.

THE NEOTIA UNIVERSITY

BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER

BIOMECHANICS & KINESIOLOGY I

Course Code -BPT-371 (PRACTICAL)

1. Biomechanical concepts Kinetic aspects of limb movement,

2. Classification of levers, Physiological significance of mechanical advantage, muscle function and performance.

3. Posture, anatomical aspects of posture, Factors affecting posture,

4. Biomechanics of Upper Extremity -Shoulder Joint, Elbow joint, Wrist joint and hand, vicarious movement.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER

EXERCISE THERAPY I

Course Code: BPT – 304

1. Classification of movements: Describe the types, technique of application, indications, Contraindications, effects and uses of the following - Active Movement , Relaxed passive movements, basic knowledge of classification of relaxed passive movements, definition technique, effects and uses of relaxed passive movements, Assisted Exercises: Technique and uses Active assisted movement, Resisted exercises, Progessive Resistive Ex.

2. Free exercises: Classification, technique, Effects of frequent exercises on various systems

3. Suspension Therapy: To study the principles, techniques of application indication at various joints of the upper limbs and lower limbs, Contraindication, Indications, Precautions, effects and uses.

4. Posture: Types, factors responsible for good posture, factors for poor posture, principles of development of good posture

5. Bed Rest Complications

6. Manual Muscle Testing

a) Principles and application techniques of Manual muscle testing.

b) Testing position, procedure and grading of muscles of the upper limb, lower limb and trunk etc.

7. Goniometry: Goniometers and its types

a) Principles, techniques and application of Goniometry.

b) Testing position, procedure and measurement of R.O.M. of the joints of upper limbs, lower limbs and trunk

c) Causes of restriction of joint movement, prevention of restriction of joint range of motion etc

8. **Soft Tissue Manipulation /Therapeutic** History, various types of soft tissue manipulation techniques,myofascial release technique . Classify, define and describe: - effleurage, stroking, kneading, petrissage, deep friction, vibration and shaking etc. Preparation of patient: Therapeutic Effects, uses, indications and contraindications of the above manipulation.

9. Relaxation

1. Describe relaxation, muscle fatigue, muscle spasm and tension (mental & physical).

2. Factors contributing to fatigue & tension.

3. Techniques of relaxation (local and general)

4. Effects, uses & clinical application.

5. Indication & contraindication.

THE NEOTIA UNIVERSITY

BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER

EXERCISE THERAPY I

Course Code -BPT-372 (PRACTICAL)

1.To practice the entire soft tissue manipulative techniques region wise – upper limb, lower limb, neck, back and face.

2.To practice the measurement of ROM of joints – upper limb, lower limb & trunk.

3.To practice the grading of muscle strength region wise – upper limb, lower limb and trunk.

4. To study the position of joints, muscle work, and stability of various fundamental and derived positions.

5.To practice the various types of suspension therapy and its application on various parts of body – region wise.

6.To study & practice local & general relaxation techniques.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER

ELECTRO THERAPY I

Course Code: BPT – 305

1. LOW FREQUENCY CURRENT-

a. Introduction to direct, alternating & modified currents.Nerve Muscle Physiology: Action Potential, Resting membrane potential, Propagation of Action Potential, Motor unit, synapse, Accommodation, Stimulation of Healthy Muscle, Stimulation of Denervated Muscle, Stimulation for Tissue Repair.

b. Production of direct current – Physiological and therapeutic effects of constant current, anodal and cathodal Galvanism, Ionization and their application in various conditions.

c. Iontophoresis – Principles of clinical application, indication, contraindication, precaution, operational skills of equipment & patient preparation. Commonly used Ions (Drugs) for pain, hyperhydrosis, would healing.

d. Modified direct current – various pulses, duration and frequency and their effect on Nerve and Muscle tissue. Production of interrupted and surged current & their effects

e. Modified direct current – Physiological and therapeutic effects, principles of clinical application, indications, contra indications, precautions, operational skills of equipment & patient preparation.

f. High Voltage Pulsed Galvanic Stimulation, Diadynamic Currents and Sinusoidal Current in brief.

g. Micro Current & Macro Current

h. Principles of Application: Electrode tissue interface, Tissue Impedance, Types of Electrode, Size & Placement of Electrode – Waterbath, Unipolar, Bi-polar, Electrode coupling, Current flow in tissues, Lowering of Skin Resistance.

2.TENS THERAPY:

a. Principle of therapy, Parameters and therapeutic uses. Indications and contra-indications, Dosimetry.

b. Theories of Pain (Outline only), Pain Gate Control theory in detail.

3. ELECTRICAL REACTIONS and ELECTRO – DIAGNOSTIC TESTS:

- Electrical Stimuli and normal behaviour of Nerve and muscle tissue.

- Types of lesion and development of reaction of degeneration.

- Faradic – Intermittent direct current test.

- S.D. Curve and its application.

- Chronaxie, Rheobase, F.G.Testetc

- Nerve conduction velocity studies

- EMG: Construction of EMG equipment.

- Biofeedback.

4. MEDIUM FREQUENCY:

a. Interferential Therapy: Define IFT, Principle of Production of IFT, Static Interference System, Dynamic Interference system, Dosage Parameters for IFT, Electrode placement in IFT, Physiological & Therapeutic effects, Indications & Contraindications.

b. Russian Current

c. Rebox Current

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER

ELECTRO THERAPY I

COURSE CODE -BPT-373 (PRACTICAL)

1. To study the basic operation of electric supply to the equipment & safety devices.

2. To experience sensory and motor stimulation of nerves and muscles by various types of low frequency currents on self.

3. To locate and stimulate different motor points region wise, including the upper & lower limb, trunk

4. Therapeutic application of different low frequency currents Faradic foot bath, Faradism under pressure, Iontophoresis.

5. To study the reactions of degeneration of nerves, to plot strength duration curves.

6. To find chronaxie and Rheobase.

7. To study a hydrocollator unit, its operations and therapeutic application of Hot packs –region wise.

8. To study a TENS Stimulator, its operation and application – region wise.

❖ • ❖

SYLLABUS OF
FOURTH SEMESTER

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) FOURTH SEMESTER

PHARMACOLOGY

Course Code: BPT – 401

1. General Pharmacology – Introduction, Definitions, Classification of drugs, Sources of drugs, Routes of drug administration, Distribution of drugs, Metabolism and Excretion of drugs Pharmacokinetics, Pharmacodynamics, Factors modifying drug response, Adverse effects

2. Autonomic Nervous system – Cholinergic and Anti-Cholinergic drugs, Adrenergic and Adrenergic blocking drugs, Peripheral muscle relaxants.

3. Cardiovascular Pharmacology – Drugs used in the treatment of heart failure: Digitalis, Diuretics, Vasodilators, ACE inhibitors, Antihypertensive Drugs: Diuretics, Beta Blockers, Calcium Channel Blockers, ACE Inhibitors, Central Acting Alpha Agonists, Peripheral Alpha Antagonists, Direct acting Vasodilators. Antiarrhythmic Drugs, Drugs used in the treatment of vascular disease and tissue ischemia.

4. Neuropharmacology – Sedative-Hypnotic Drugs: Barbiturates, Benzodiazepines, Antianxiety Drugs: Benzodiazepines, Other Anxiolytics, Drugs Used in Treatment of Mood Disorders, Antipsychotic drugs

5. Disorders of Movement - Drugs used in Treatment of Parkinson ’s disease, Antiepileptic Drugs, Spasticity and Skeletal Muscle Relaxants

6. Inflammatory/Immune Diseases - Non-narcotic Analgesics and Nonsteroidal Anti-Inflammatory Drugs, Glucocorticoids, Drugs Used in Treatment of Arthritic Diseases, Drugs Used in the Treatment of Neuromuscular Immune/Inflammatory Diseases, Respiratory Pharmacology

7. Drugs acting on G.I. System

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) FOURTH SEMESTER

BIOMECHANICS & KINESIOLOGY II

Course Code: BPT – 402

Biomechanics of the peripheral joints

1.The hip complex: structure and function of the hip joint; hip joint pathology- arthrosis, fracture, bony abnormalities of the femur.

2.The knee complex: structure and function of the knee joint – tibiofemoral joint and patellofemoral joint; effects of injury and disease.

3.The ankle and foot complex.: structure and function of the ankle joint, subtalar joint, talocalcaneonavicular joint, transverse tarsal joint, tarsometatarsal joints, metatarsophalangeal joints, interphalangeal joints, structure and function of the plantar arches, muscles of the ankle and foot, deviations from normal structure and function – Pes Planus and Pes Cavus

4.Analysis of Posture and Gait – Static and dynamic posture, postural control, kinetics and kinematics of posture, ideal posture analysis of posture, effects of posture on age, pregnancy, occupation and recreation; general features of gait, gait initiation, kinematics(parameters of gait, determinants of gait, maturation of gait) and kinetics of gait, energy requirements, kinematics and kinetics of the trunk and upper extremities in relation to gait, staircase climbing and running, effects of age, gender, assistive devices, disease, muscle weakness, paralysis, asymmetries of the lower extremities, injuries and malalignments in gait; Movement Analysis : ADL activities like sitting – to standing, lifting, various grips, pinches.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER

BIOMECHANICS & KINESIOLOGY II

Course Code: BPT – 471 (PRACTICAL)

1.It shall be conducted for various joint movements and analysis of the same. Demonstration may also be given as how to analyse posture and gait.

2.The student shall be taught and demonstrated to analysis for activities of daily living – ADL – (like sitting to standing, throwing, lifting etc.)

3.The student should be able to explain and demonstrate the movements occurring at the joints, the muscles involved, the movements or muscle action produced, and mention the axis and planes through which the movements occur. The demonstrations may be done on models.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER

EXERCISE THERAPY II

Course Code: BPT – 403

1. P.N.F: Basic theory of proprioceptive – neuro muscular facilitation techniques; Functional re-education.

2. Functional Re-education - a. Lying to sitting: Activities on the Mat/Bed, Movement and stability at floor level; Sitting activities and gait; Lower limb and Upper limb activities.

3. Co-ordination exercise: Definition of co-ordinated movements and in coordinated movements, Factors for coordinated movements; technique of coordination exercises.

4. Aerobic exercise

5. Principal of mobilization and manipulation.

6. Posture, Balance, Gait:

a. Normal Posture – Overview of the mechanism of normal posture.

b. Abnormal Posture – Assessment, Types, etiogenesis, management, including therapeutic exercises.

c. Static and Dynamic Balance – Assessment & management including therapeutic exercises.

d. Gait: Overview of normal gait & its components. Analysis of normal gait with muscle work, various pathological gaits. Gait deviations - Assessment, Types, etiogenesis, management, including therapeutic exercises.

7.Types of walking aids, indications, effects & various training techniques.

8.Crutch gait: Introduction, crutch measurement, crutch balance, various types of crutch gait in details.

9.Hydrotherapy:

a. Introduction, various types of hydrotherapy units, construction and equipment used in hydrotherapy (302)

b. Principles, indications, contraindication, effects and laws of hydrotherapy.

c. Precautions towards patient, towards therapist, equipment unit etc.0

10. Introduction to Special Techniques:

i). Principles of traction, physiological & therapeutic effects classification, types, indications, contraindications, techniques of application, operational skills & precautions.

ii). Group Therapy – Types, advantages & disadvantages.

iii). Specific exercise regimens

a. Isotonic: de Lormes, Oxford, MacQueen,DAPRE, Circuit weight training,Plyometrics.

b. Isometric: BRIME (Brief Resisted Isometric Exercise), Multiple Angle training programme.

c. Isometrics Isokinetic regimens.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER

EXERCISE THERAPY II

Course Code: BPT – 472 (PRACTICAL)

The students of exercise therapy are to be trained in Practical Laboratory work for all the topics discussed in theory. The student must be able to evaluate and apply judiciously the different methods of exercise therapy techniques on the patients. They must be able to

1. Demonstrate the PNF techniques
2. Demonstrate exercises for training co-ordination – Frenkel's exercise
3. Demonstrate techniques for functional re-education
4. Assess and train for using walking aids
5. Assess and evaluate posture and gait
6. Demonstrate techniques of strengthening muscles using specific exercise regimens.
7. Demonstrate techniques for measuring limb length and body circumference.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER

ELECTRO THERAPY II

Course Code: BPT – 404

Thermo& Actinotherapy (High Frequency Currents)

1. Electro Magnetic Spectrum.

2. SWD: Define short wave, Frequency & Wavelength of SWD, Principle of Production of SWD, Circuit diagram & Production of SWD, Methods of Heat Production by SWD treatment, Types of SWD Electrode, Placement & Spacing of Electrodes, Tuning, Testing of SWD Apparatus, Physiological & Therapeutic effects, Indications & Contraindications, Dangers, Dosage parameters.

3. Long wave diathermy

4. Pulsed Electro Magnetic Energy: Principles, Production & Parameters of PEME, Uses of PEME.

5. Micro Wave Diathermy: Define Microwave, Wave length & Frequency, Production of MW, Applicators, Dosage Parameters, Physiological & Therapeutic effects, Indications & Contraindications, Dangers of MWD.

6. Ultrasound: Define Ultrasound, Frequency, Piezo Electric effects: Direct, Reverse, Production of US, Treatment Dosage parameters: Continuous & Pulsed mode, Intensity, US Fields: Near field, Far field, Half value distance, Attenuation, Coupling Media, Thermal effects, Non-thermal effects, Principles & Application of US: Direct contact, Water bag, Water bath, Solid sterile gel pack method for wound. Uses of US, Indications & Contraindications, Dangers of Ultrasound. Phonophoresis: Define Phonophoresis, Methods of application, commonly used drugs, Uses. Dosages of US.

7. IRR: Define IRR, wavelength & parameters, Types of IR generators, Production of IR, Physiological & Therapeutic effects, Duration & frequency of treatment, Indication & Contraindication.

8. UVR: Define UVR, Types of UVR, UVR generators: High pressure mercury vapour lamp, Water cooled mercury vapour lamp, Kromayer lamp, Fluorescent tube, Theraktin tunnel, PUVA apparatus. Physiological & Therapeutic effects. Sensitizers & Filters. Test dosage calculation. Calculation of E1, E2, E3, E4 doses. Indications, contraindications. Dangers. Dosages for different therapeutic effects, Distance in UVR lamp

9. LASER: Define LASER. Types of LASER. Principles of Production. Production of LASER by various methods. Methods of application of LASER. Dosage of LASER. Physiological

&Therapeutic effects of LASER. Safety precautions of LASER. Classifications of LASER. Energy density & power density

10. Superficial heating Modalities
    a) Wax Therapy: Principle of Wax Therapy application – latent Heat, Composition of Wax Bath Therapy unit, Methods of application of Wax, Physiological & Therapeutic effects, Indications & Contraindication, Dangers.
    b) Contrast Bath: Methods of application, Therapeutic uses, Indications & Contraindications.
    c) Moist Heat Therapy: Hydro collator packs – in brief, Methods of applications, Therapeutic uses, Indications & Contraindications.
    d) Cyclotherm: Principles of production, Therapeutic uses, Indications & Contraindications.
    e) Fluidotherapy: Construction, Method of application, Therapeutic uses, Indications & Contraindications.
    f) Whirl Pool Bath: Construction, Method of Application, Therapeutic Uses, Indications & Contraindications.
    g) Magnetic Stimulation, Principles, Therapeutic uses, Indications & contraindication.

11.Cryotherapy: Define- Cryotherapy,Cryokinetics, Principle- Latent heat of fusion, Physiological & Therapeutics effects, Techniques of Applications, Indications & Contraindications, Dangers, Methods of application with dosages.

THE NEOTIA UNIVERSITY (TNU)
BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER
ELECTRO THERAPY II

Course Code: BPT – 473 (PRACTICAL)

The student of Electrotherapy must be able to demonstrate the use of electrotherapy modalities applying the principles of electrotherapy with proper techniques, choice of dosage parameters and safety precautions.

1.Demonstrate the technique for patient evaluation – receiving the patient and positioning the patient for treatment using electrotherapy.

2.Collection of materials required for treatment using electrotherapy modalities and testing of the apparatus.

3.Application of Ultrasound for different regions-various methods of application

4.Demonstrate treatment techniques using SWD, IRR and Microwave diathermy

5.Demonstrate the technique of UVR exposure for various conditions – calculation of test dose

6.Calculation of dosage and technique of application of LASER

7.Technique of treatment and application of Hydrocollator packs, cryotherapy, contrast bath, wax therapy.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) THIRD SEMESTER

BIOSTATISTICS

Course Code: BPT – 405

1. Introduction: Meaning, definition, characteristics of statistics., Importance of the study of statistics, Branches of statistics, Statistics and health science including physiotherapy, Parameters and Estimates, Descriptive and inferential statistics, Variables and their types, Measurement scales.

2. Tabulation of Data: Basic principles of graphical representation, Types of diagrams – histograms, frequency polygons, smooth frequency polygon, cumulative frequency curve, Normal probability curve.

3. Measure of Central Tendency: Need for measures of central Tendency, Definition and calculation of mean – ungrouped and grouped, Meaning, interpretation and calculation of median ungrouped and grouped., Meaning and calculation of mode, Comparison of the mean, median and mode, Guidelines for the use of various measures of central tendency.

4. Probability and Standard Distributions: Meaning of probability of standard distribution, the binominal distribution, the normal distribution, Divergence from normality – skew ness, kurtosis.

5. Sampling techniques: Need for sampling - Criteria for good samples, Application of sampling in community, Procedures of sampling and sampling designs errors, Sampling variation and tests of significance.

6. Analysis of variance & covariance: Analysis of variance (ANOVA), what is ANOVA? Basic principle of ANOVA, ANOVA technique, Analysis of Co variance (ANACOVA).

7. Format of scientific documents. (Structure of protocols, formats reporting in scientific journals, systematic reviews and meta-analysis).

❖ • ❖

SYLLABUS OF

FIFTH SEMESTER

THE NEOTIA UNIVERSITY (TNU)
BACHELOR OF PHYSIOTHERAPY (BPT) FIFTH SEMESTER

ORTHOPAEDICS I

Course Code: BPT – 501

1. Introduction to Orthopaedics: Introduction to orthopaedic terminology. Types of pathology commonly Deal with, clinical examination, common investigations X- rays & imaging techniques and outline of non –operative management.

2. Principles of operative treatment: List indications, contraindication and briefly outline principles of: Arthrodesis, Arthroplasty, Osteotomy, Bone grafting, Tendon – Transfers and Arthroscopy.

3. Fractures and Dislocations: General Principles, outline the following: i) Types of Fractures including patterns. Open and closed fractures and fracture – dislocations ii) Differences between dislocation & subluxation. iii) General & Local signs & symptoms of fractures & dislocation. iv) Principle of management of fractures & dislocations. v) Prevention & treatment of complications including: Fracture – disease, Volkmann's Ischaemic, Sudeck's Atrophy, Carpal Tunnel Syndrome. Myositis Ossificans and Shoulder-Hand Syndrome vi) Fracture healing.

4. Sprains and Muscle Strains: List common sites of sprains and muscle strains and describe the clinical manifestations and treatment. viz. Tennis Elbow, Golfer's Elbow, De-quervain's disease, Tenovaginitis, Trigger finger, Carpal Tunnel Syndrome and Plantar Fasciitis etc.

5. Upper Limb Fractures & Dislocations

a) Enumerate major long bone fractures and joint injuries.

b) Briefly describe their clinical features, principles of management and complications.

6. Hand Injuries: Outline of clinical features, management and complications of: Skin and soft tissue injury, tendon injury, bone and joint injury.

7. Spinal Fractures and Dislocations: Outline the mechanism, clinical features, principles of management and complications of spinal injuries.

8. Bone & Joint Infections: Outline the etiology, clinical features, management and complications of septic arthritis osteomyelitis, Tuberculosis (including spinal T.B.). Ankylosing spondylitis Gouty arthritis. Psoriatic arthritis. Haemophilic arthritis. Still's disease (juvenile rheumatoid arthritis). Charcot's joints. Connective Tissue Disorders- Systemic Lupus Erythematosis, Scleroderma, Dermatomyositis, Poliomyelitis, Mixed connective tissue Disease (MCTD)

9. Inflammatory Conditions and Lesions of joints and bones. Osteomyelitis, tuberculosis, pyogenic infection, osteoarthritis, rheumatoid arthritis, TB joints tenosynovitis, capsulitis. tendonitis, osteoporosis and osteomalacia, sciatica, low back pain & brachial neuralgia.

10. Neck & Back Pain, Painful Arc Syndrome, Tendinitis, Fasciitis & Spasmodic Torticollis, (Outline the above including clinical features and management).

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) FIFTH SEMESTER

ORTHOPAEDICS I

COURSE CODE - BPT-571 (PRACTICAL)

1.To be able to discuss the patho-physiology, clinical manifestations & conservative/Surgical management of various traumatic & cold cases of the musculo-skeletal conditions

2.Gain the skill of clinical examination & interpretation of the preoperative cold cases & all the post- operative cases

3.To be able to read & interpret - salient features of the X-ray of the spine & extremities

4.Pathological/ biochemical studies pertaining to Orthopaedic conditions

5.Will be able to correlate the radiological findings with the clinical findings

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) FIFTH SEMESTER

NEUROLOGY I

Course Code: BPT – 502

1. General Introduction of neurology & neurological assessment.
2. Circulation of the brain & spinal cord, Cerebro-vascular accidents
3. Traumatic Injury of Head & Spine, Paraplegia
4. Acute infections of CNS – Encephalitis, Meningitis and Poliomyelitis.
5. Pyramidal & Extra Pyramidal lesions/disorders,Parkinsonism,Involuntary movements
6. Disorders of Nerve roots & peripheral nerves, cranial nerves &G.B.Syndrome
7. Disorders & Diseases of muscle like Polymyositis, Muscular Dystrophy
8. Myasthenia Gravis
9. Disorders of the spinal cord & cauda equina
10. Demyelinating diseases
11. Infections of the nervous system.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) FIFTH SEMESTER

NEUROLOGY I

COURSE CODE -BPT- 572 (PRACTICAL)

PRACTICAL & VIVA

A. Neurological assessment on Patients

B. Identification of the neurological disorders that were studied in the theory classes.

To Gain the skill of clinical examination & interpretation of the neurology cases for viva.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) FIFTH SEMESTER

GENERAL MEDICINE I INCLUDING

CARDIO- RESPIRATORY DISORDERS

COURSE CODE -503

A. Introduction of Medicine

1.Hematological Disease- Approach to a. patient with haematological disease, Anaemia & its different types, Leukaemia Haemophilia, Haemoglobinopathies, Purpura, Oncology-Lymphomas, Lung Carcinoma

2.Endocrine & Metabolic Diseases Acromegaly, Gigantism & Dwarfism, Diabetes Insipidus, Hypothyroidism, Hyperthyroidism Adrenal hypo-function & hyper function, Diabetes Mellitus, Diabetic Neuropathy, Diabetic Foot, Hypoglycaemia, Vit-D, Calcium metabolism & Parathyroid Gland Disorders, Lipid Disorders

3. **Nutritional Diseases -**Obesity, Protein Energy Malnutrition, Common Vitamin Deficiencies.

4.Connective Tissue Diseases -Approach to a patient with Connective Tissue Disease, Rheumatoid Arthritis, Gout, Vasculitis.

5.Infectious Diseases-Malaria, Filaria, Tetanus, Kala-azar, Typhoid Fever, HIV& AIDS, Diarrhoeal Diseases.

B. Diseases of Respiratory System- Approach to a patient with Respiratory Disease, Chronic Obstructive Pulmonary Disease,Bronchial Asthma,Pneumonia, Lung Abscess, Bronchiectasis.Pleural Effusion and Empyema, Pneumothorax. Pulmonary tuberculosis.

C. Basic Anatomy of Heart, Coronary circulation, Normal Cardiac contraction and relaxation mechanism ,Acute Rheumatic Fever, Aetiology, Clinical features and Assessment ,Valvular Heart Diseases like Mitral Stenosis, Mitral Regurgitation, Aortic Stenosis, Aortic Regurgitation-Clinical features and assessment , Ischemic Heart Disease- Clinical features and assessment Hypertension- Types and management ,Congestive Heart Failure ,Peripheral Vascular Disease & Deep Vein thrombosis ,Common Cardiac Arrhythmias

D. Psychiatry

1. Psychiatric History, examination of mental status Classification of Mental disorders

2. Schizophrenia its types-brief Psychotic disorder, delusional disorder, schizo-affective disorders, post-partum psychosis, mood disorders, organic mental disorders, Anxiety disorder, phobia, obsessive compulsive, dissociative conversion disorder, hypochondriasis, post- traumatic disorder, personality disorder, substance related disorders-adjustment impulse control disorder, psycho-sexual disorders, psycho-somatic disorder, psychiatric emergencies- suicide-stress management-disorders of infancy-childhood adolescence disruptive behaviour, conduct disorder, attention deficit, hyper-reactivity-eating disorder, tic disorder, elimination disorder, child abuse, enuresis

3. Management – ECT, Chemotherapy, group therapy, psychotherapy, cognitive behavioural therapy

4. Neuro-psychiatric aspects of – a) Cerebro-vascular disorders b) Brain tumours c) Epilepsy d) Traumatic brain injury e) Movement disorders f) HIV infection and AIDS. g) Headache-causes and management h) Neuromuscular disorders.

5. Delirium, dementia, amnesia and other cognitive disorders.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) FIFTH SEMESTER

GENERAL MEDICINE I INCLUDING

CARDIO- RESPIRATORY DISORDERS

COURSE CODE -BPT-573 (PRACTICAL)

Principles of Management

General principles of assessment and management of the diseases and disorders covered in theory. Elementary idea about use of laboratory and imaging techniques.

To gain the basic knowledge for the general condition of Medicine as well as cardio-respiratory conditions for viva.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) FIFTH SEMESTER

GENERAL SURGERY INCLUDING

CARDIOTHORACIC SURGERY

COURSE CODE -BPT-504

General Surgery

1. Principles of General Surgery and Anaesthesia including blood transfusion and physiological response of the body to surgery

2. Pre- and Post-Operative complications and their management

3. Wounds: - Wound Infections, Sinuses and Ulcers. Burns- Different degrees. Complications of Burn specially post burn contractures, Tetanus, Gangrene and gas gangrene

4. Outline of Abdominal surgery, Post-Operative complications and management in- Appendicectomy, Herniorrhaphy, Mastectomy, Thyroidectomy, Colostomy, Cholecystectomy, Ileostomy

Cardio Thoracic Surgery

Incisions for cardiothoracic surgery, General Pre- and Post-Operative patients of cardiothoracic surgery, various surgical procedures for chest and cardiac condition/disease

Cardiorespiratory resuscitation, cardiopulmonary bypass, Special investigation procedures in cardiac surgery, Basic techniques in cardiac surgery approach, incisions, Types of operation, Complications

Brief description of indications, Surgery, complications for:

1) Surgeries of thorax, lung, pleura and pericardium

2) Surgery for coronary artery disease, Valvular surgeries, Surgery for Congenital Heart Disease, Peripheral arterial disorder, Burger's disease, Raynaud's disease and AneurysmGangrene, Amputation, DVT

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) FIFTH SEMESTER

GENERAL SURGERY INCLUDING

CARDIOTHORACIC SURGERY

COURSE CODE - BPT-574

Viva related to all the conditions and surgeries covered in theory including burns and wound management. Pre- and Post-Operative complications and their management.

To gain the basic knowledge for the general surgery as well as cardio-thoracic surgery conditions for viva.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) FIFTH SEMESTER

COMMUNITY MEDICINE

COURSE CODE -BPT-505

1. Health and Disease: Definitions, Concepts, Dimensions and Indicators of Health, Concept of well-being, Spectrum and Determinants of Health, Concept and natural history of Disease, Concepts of disease control and prevention, Modes of Intervention, Population Medicine, The role of socio-economic and cultural environment in health and disease.

2. Epidemiology, definition and scope. Principles of Epidemiology and Epidemiological methods: Components and Aims, Basic measurements, Methods, Uses of Epidemiology, Infectious disease epidemiology, Dynamics and modes of disease transmission, Host defences and Immunizing agents, Hazards of Immunization, Disease prevention and control, Disinfection.

3. Community Resources:

A. Health programmes in India – Vector borne disease control programme, National leprosy eradication programme, National tuberculosis programme, National AIDS control programme, National programme for control of blindness, Iodine deficiency disorders (IDD) programme, Universal Immunisation programme, Reproductive and child health programme, National cancer control programme, National mental health programme. National diabetes control programme, National family welfare programme, National sanitation and water supply programme, Minimum needs programme.

B. Health Education: Concepts, aims and objectives, Approaches to health education, Models of health education, Contents of health education, Principles of health education, Practice of health education.

4. Community Health in relation to rural and urban health setup

5. Disaster Management: Natural and man-made disasters, Disaster impact and response, Relief phase, Epidemiologic surveillance and disease control, Nutrition, Rehabilitation, Disaster preparedness.

6. Preventive Medicine in Obstetrics, Paediatrics and Geriatrics: MCH problems, Antenatal, Intra-natal and post-natal care, Care of children, Child health problems, Rights of child and National policy for children, MCH services and indicators of MCH care, Social welfare programmes for women and children, Preventive medicine and geriatrics.

7.Nutrition and Health: Classification of foods, Nutritional profiles of principal foods, Nutritional problems in public health, Community nutrition programmes.

SYLLABUS OF
SIXTH SEMESTER

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SIXTH SEMESTER

ORTHOPAEDICS II AND SPORTS INJURY

Course Code: BPT – 601

1. Lower Limb Fractures

1. Enumerate major long bone fractures and joint injuries.
2. Briefly describe their clinical features, principles of management and complication.

2. Dislocations of Lower Limb –

1. mechanism of injury, clinical features, complications, management

3. Recurrent Dislocations: Outline the mechanism, clinical features, principles of management and complications of recurrent dislocation of the shoulder and patella.

4. Amputations

1. Classify amputations. List indication for surgery.
2. Outline pre-operative, operative and prosthetic management.
3. Outline prevention and treatment of complications.

5. Bone Joint Tumours: Classify and outline the clinical features, management and complications of the following (benign / malignant bone and joint tumors, Osteomas, Osteosarcomas, Osteoclastomas, Ewing's sarcoma, Multiple myeloma

6. Chronic Arthritis: Outline of pathology: clinical features, mechanism of deformities, management and complications of: Rheumatoid arthritis. Osteoarthritis of major joints and spine, Ankylosing spondylitis.

7. Spinal and Other Deformities: Classify spinal deformities and outline the salient clinical features, management and complications of Scoliosis, Kyphosis and Lordosis, Cervical Rib, Common acquired deformities of foot, knee, hip, shoulder, elbow and wrist including hand.

8. Neuromuscular Disorders: Definition, causes, clinical feature, complications, management.

1. Poliomyelitis: Describe the pathology, microbiology, prevention, management and complications of polio. Outline the treatment of residual paralysis including use of orthosis, Principles of muscle transfers and corrective surgery
2. Leprosy: Outline of clinical features, management and complications of neuritis, muscle paralysis, tropic ulceration and hand & feet deformities
3. Cerebral palsy.

9. Congenital Deformities: Outline the clinical features and management of Congenital TalepusEquinoVarus (CTEV), Congenital Dislocation of the Hip, Flat foot, vertical talus, limb

deficiency (radial club hand and femoral, tibial and fibula deficiencies) meningomyelocele, Arthrogryposis multiplex congenita and Osteogenesis imperfecta

10. Peripheral Nerve Injuries: Outline the clinical features and management, including reconstructive surgery of:

1. Radial, median and ulnar nerve lesions.
2. Sciatic and lateral popliteal lesions.
3. Brachial Plexus injuries including Erb's, Klumpke's and crutch palsy, Claw Hand

11. Sports Injuries: Injuries related to common sports their classification and management.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SIXTH SEMESTER

ORTHOPAEDICS II AND SPORTS INJURY

Course Code: BPT – 671 (PRACTICAL & VIVA)

1.Radiological & C T Scan / MRI / Ultrasound Identification on Fractures and Dislocations including soft tissue injuries covered in theory syllabus.

2.Identification of Deformities

3.Identification of Inflammatory Conditions and Lesions of joints and bones

4.Principles of operative procedures, Amputations – Common sites, Cause, Ideal stump & its care.

5.Orientation about joint replacement surgery & Osteotomy

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SIXTH SEMESTER

NEUROLOGY II INCLUDING NEUROSURGERY

Course Code: BPT – 602

1. ALS (Amyotropic Lateral Sclerosis) & Other Motor Neuron disease(1)
2. Cerebral Palsy (1)
3. Cervical & Lumbar Spondylosis and Disc Prolapse
4. Intracranial Tumors 2MT
5. Neuro-ophthalmology: Assessment of visual function – acuity, field, colour vision, Pupillary reflex, accommodation reflex, abnormalities of optic disc, disorders of optic nerve, tract, radiation, occipital pole, disorders of higher visual processing, disorders of pupil, disorders of eye movements, central disorders of eye movement.
6. Deafness, vertigo, and imbalance 2MT
7. Lower cranial nerve paralysis – Etiology, clinical features, investigations, and management of following disorders - lesions in trigeminal nerve, trigeminal neuralgia, trigeminal sensory neuropathy, lesions in facial nerve, facial palsy, bell's palsy, hemi facial spasm, Glossopharangeal neuralgia, lesions of Vagus nerve, lesions of spinal accessory nerve, lesions of hypoglossal nerve. Dysphagia – swallowing mechanisms, causes of dysphagia, symptoms, examination, and management of dysphagia 2 MT
8. Higher cortical, neuro psychological and neurobehavioral disorders – Epilepsy, Dyssomnias, Seizures, Parasomnias, Dementia, Alzheimer's disease, Coma and Brain Death (PRESENTATION)
9. Perceptual and Speech Disorders (1)
10. Cerebellar and coordination disorders

Neuro Surgery:

1. Principles of Management of Cranial & Spinal trauma
2. Orientation about Neuro-Surgical Intensive care
3. Outline of clinical presentation of Brain Tumors & Spinal Cord Compression
4. Elementary idea about minimal invasive surgery in Neurosurgical perspective

5. Developmental anomalies of CNS
6. Patho-physiology of peripheral nerve injury & its principles of management(Page 125)
7. Degenerative diseases of spine
8. Introduction, Indications and Complications of following Neuro surgeries: Craniotomy, Cranioplasty, Stereotactic surgery(384), Deep brain stimulation, Burr-hole, Shunting, Laminectomy, Hemilaminectomy(466 kisner), Rhizotomy, Microvascular decompression surgery, Endarterectomy, Embolization, Pituitary surgery, Ablative surgery - Thalamotomy and Pallidotomy, coiling of aneurysm, Clipping of aneurysm, and Neural implantation.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SIXTH SEMESTER

NEUROLOGY II INCLUDING NEUROSURGERY

Course Code: BPT – 672 (PRACTICAL & VIVA)

A. Neurological assessment on Patients

B. Identification of the neurological disorders that were studied in the theory classes.

C. Neurosurgery:

a. Principles of Management of Cranial and Spinal trauma
b. Orientation about Neuro-Surgical Intensive care
c. Principles of operative procedures for the conditions discussed in theory

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SIXTH SEMESTER

GENERAL MEDICINE II & PAEDIATRICS

Course Code: BPT – 603

1. Diseases of GI system & Hepato-Biliary Disorders

Peptic Ulcer Disease, Malabsorption Syndrome, Inflammatory Bowel Disease, Approach to a patient of G.I.S. Disease, Upper G.I.S. bleed, Jaundice, Viral Hepatitis, Cirrhosis of Liver, Acute Pancreatitis, Infections of Alimentary Tract

2. Diseases of Kidney

Approach to a patient of Renal Disease, Glomerulo Nephritis, Acute Renal Failure, Chronic Renal Failure, Dialysis, Nephrotic Syndrome, Urinary Tract Infections

3. Diseases due to Environmental factors & Poisons

Heat Stroke, Radiation Injury, Snake Bite, General principles of management of poisoning, Organo-Phosphorus Poisoning, Sedative and hypnotic poisoning

4. Diseases of the Skin:

Examination and clinical manifestations of skin diseases; Causes, clinical features and management of the following skin conditions: Leprosy, Psoriasis, Pigmentary Anomalies, Vasomotor disorders, Dermatitis, Coccal and Fungal Parasitic and Viral infections.

Paediatrics

1. Growth and development of a child from birth to 12 years of age indicating physical and adaptive developments.
2. Maternal and neonatal factors contributing to high-risk pregnancy.
3. Problems and management of LBW infants, Perinatal problems and management, Congenital abnormalities and management,
4. Respiratory conditions of childhood,
5. Cerebral Palsy – causes, complications, clinical manifestations, treatment;
6. Spina Bifida – management and treatment,
7. Epilepsies – types, diagnosis and treatment;
8. Recognizing developmental delay, common causes of delay;

9. Orthopaedic and Neuromuscular disorders in childhood, clinical features and management;

10. Muscular Dystrophy- Various forms mode of inheritance, clinical manifestations and its management physiotherapeutic ally.

11. Meningomyelocele - Outline of development clinical manifestations, bladder bowel control, hydrocephalus

12. Sensory disorders – problems resulting from loss of vision and hearing;

13. Learning and behavioural problems – Hyperactivity, Autism, Challenging behaviours, Educational delay, The Clumsy Child

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SIXTH SEMESTER

GENERAL MEDICINE II & PAEDIATRICS

Course Code: BPT – 673 (PRACTICAL & VIVA)

1.Principles of Management

2.General principles of assessment and management of the diseases and disorders covered in theory.

3.Elementary idea about use of laboratory and imaging techniques.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SIXTH SEMESTER

PLASTIC SURGERY & OBSTETRICS & GYNECOLOGY

Course Code: BPT – 604

Plastic Surgery:

1. Burn: Definition, Classification, Causes, Prevention, Pathological changes, Complications, Clinical Features and Management. Skin Grafts – Types, Grafting Procedures, Survival of Skin Graft; Flaps – Types and uses of Flaps.

2. Leprosy: Principles of Tendon transfer. Surgery of hand with emphasis on reconstructive surgery in Trauma and in Leprosy (N.C)

Ob & Gyn: (Brief outline only)

1. Anatomy and physiology of the female reproductive organs. Puberty dynamics
2. Physiology of mens.trual cycle
3. Hormonal disorders of females-obesity and female hormones
4. Pregnancy – Diagnosis, abortion, physiological changes during pregnancy, antenatal care, high risk pregnancy, musculoskeletal disorders during pregnancy, multiple child birth, normal labour.
5. Child birth complications, investigation and management
6. Normal puerperium, lactation and importance of post-natal exercises(H.G)
7. Infection of female genital tract including sexually transmitted diseases, low backache
8. Prolapse of uterus and vagina
9. Principle of common gynaecological operations – hysterectomy, D&C, D&E, Pop smear
10. Menopause: Its effect on emotions and musculoskeletal system
11. Urogenital dysfunction – pre and post-natal condition
12. Sterility: Pathophysiology, investigations, management, Malnutrition and deficiencies in females.
13. Surgical procedures involving child birth.

a. Definition, Indications and Management of the following surgical procedures – pelvic repair, caesarean section, nephrectomy, Hysterosalphyngography, Dilatation and Curettage, Laproscopy, Colposcopy, Hysterectomy.

14. Carcinoma of female reproductive organs – surgical management in brief Mastectomy – Simple, radical. Hysterectomy.

15. Incontinence – Types, Causes, Assessment and Management(Aquib Sir).

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SIXTH SEMESTER

PLASTIC SURGERY & OBSTETRICS & GYNECOLOGY

Course Code: BPT – 674 (PRACTICAL & VIVA)

1Demonstration of Principles of Surgery and Anaesthesia including blood transfusion and Physiological response of the body to surgery.

2.Pre- and Post-Operative complications and their management

3.Viva related to all the conditions and surgeries covered in theory including burns and wound management.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SIXTH SEMESTER

PHYSICAL FUNCTIONAL ASSESSMENT & ICF THEORY

Course Code: BPT – 605

A. Problem oriented Medical Record – History, Concept and Advantages

1. Communication with patient-Principle and methods

B) Functional Diagnosis using International Classification of Function, Disability& Health (I.C.F.) (Applicable for all units mentioned below) and Treatment Techniques

C) Special Tests

1. Cervical Spine: Foraminal compression, Distraction, Shoulder depression, vertebral artery, Dizziness tests
2. Shoulder: Yergason's, Speed's, Drop- Arm, Supraspinatus, Impingement, Anterior & Posterior Apprehension, Allen's, Adson's test.
3. Elbow: Cozen's, Miller's, Tinel's sign
4. Forearm, Wrist &Hand: Phalen's,Bunnel-Littler, Froment's sign
5. Lumbar Spine: Schober's, SLR, Prone,Knee Bending, Slump.
6. Sacro Iliac joint: Faber- Patrick's, Gaenslen, Gillet, March's test
7. Hip: Nelaton's line, Bryant's triangle, Thomas, Ober's, Tripod sign, Trendlenburg sign
8. Knee: Tests for collateral & cruciate ligaments (valgus, varus, Lachman, Drawer's, McMurray's, Fluctuation, Patellar tap, Q- angle, Clarke's test
9. Ankle & Foot: Anterior Drawer, Talar Tilt, Homan's & Moses test
10. ULTT, LLTT

D) Basics in Manual Therapy with Clinical Reasoning:

1. Assessment of Articular and extra-articular soft tissue status
2. Contractile tissues, non-contractile tissues, Examination of joint integrity, Accessory movement, End feel
3. Examination of musculoskeletal Dysfunction:
4. Subjective examination, Objective examination, Special tests,

E) Fitness & Health

1. Screening for risk factors
2. Body composition-B.M.I., use of skin fold calipers, Girth measurement
3. Physical fitness: Flexibility, Strength, Endurance, Agility
4. Physical Activity Readiness Questionnaire
5. Screening for health and fitness in childhood, adulthood and geriatric group
6. Quality of life

7. Principles & components of exercise prescription for healthy

F) Clinical Reasoning &Rationale of plan of Physiotherapeutic Management

G) Basic Ergonomics

H) To develop /design Physiotherapy Department, Clinic.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SIXTH SEMESTER

FUNCTIONAL ASSESSMENT

Course Code: BPT – 675 (PRACTICAL & VIVA)

Demonstration of Special Tests

1. Cervical Spine: Foraminal compression, Distraction, Shoulder depression, vertebral artery, Dizziness tests
2. Shoulder: Yergason's, Speed's, Drop- Arm, Supraspinatus, Impingement, Anterior & Posterior Apprehension, Allen's, Adson's test.
3. Elbow: Cozen's, Miller's, Tinel's sign
4. Forearm, Wrist &Hand: Phalen's,Bunnel-Littler, Froment's sign
5. Lumbar Spine: Schober's, SLR, Prone,Knee Bending, Slump.
6. Sacro Iliac joint: Faber- Patrick's, Gaenslen, Gillet, March's test
7. Hip: Nelaton's line, Bryant's triangle, Thomas, Ober's, Tripod sign, Trendlenburg sign
8. Knee: Tests for collateral & cruciate ligaments (valgus, varus, Lachman, Drawer's, McMurray's, Fluctuation, Patellar tap, Q- angle, Clarke's test
9. Ankle & Foot: Anterior Drawer, Talar Tilt, Homan's & Moses test
10. ULTT, LLTT

❖ • ❖

SYLLABUS OF
SEVENTH SEMESTER

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SEVENTH SEMESTER

PHYSIOTHERAPY IN ORTHOPAEDICS I

Course Code: BPT – 701

Introduction:

1.Brief review of the following conditions and various physiotherapeutic modalities, aim, means and techniques of physiotherapy applied for the conditions.

2.PT Management & PT assessments for the operative treatment: List indications, contraindication and briefly outline principles of: Arthrodesis, Arthroplasty, Osteotomy, Bone Grafting, Tendon – Transfers and Arthroscopy.

3.Fractures and Dislocations: General Principles, outline the following: i) Types of Fractures including patterns. Open and closed fractures and fracture – dislocations ii) Differences between dislocation & subluxation. iii) General & Local signs & symptoms of fractures & dislocation. iv) Principle of management of fractures & dislocations. v) Prevention & treatment of complications including: Fracture – disease, Volkmann's Ischaemic, Sudeck's Atrophy, Carpal Tunnel Syndrome. Myositis Ossificans and Shoulder-Hand Syndrome vi) Fracture healing.

4.Sprains and Muscle Strains: List common sites of sprains and muscle strains and describe the clinical manifestations and treatment. viz. Tennis Elbow, Golfer's Elbow, Dequervain's disease, Tenovaginitis, Trigger finger, Carpal Tunnel Syndrome and Plantar Fasciitis etc.

5.Upper Limb Fractures & Dislocations

a) Enumerate major long bone fractures and joint injuries.

b) Briefly describe their clinical features, principles of management and complications.

6.Hand Injuries: Outline of clinical features, management and complications of: Skin and soft tissue injury, tendon injury, bone and joint injury.

7.Spinal Fractures and Dislocations: Outline the mechanism, clinical features, principles of management and complications of spinal injuries.

8.Bone & Joint Infections: Outline the etiology, clinical features, management and complications of septic arthritis osteomyelitis, Tuberculosis (including spinal T.B.).

9.Inflammatory Conditions and Lesions of joints and bones. Osteomyelitis, tuberculosis, pyogenic infection, osteoarthritis, rheumatoid arthritis, TB joints tenosynovitis, capsulitis. tendonitis, osteoporosis and osteomalacia, sciatica, low back pain & brachial neuralgia.

10.Neck & Back Pain, Painful Arc Syndrome, Tendinitis, Fascitis& Spasmodic Torticollis, (Outline the above including clinical features and management).

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SEVENTH SEMESTER

PHYSIOTHERAPY IN ORTHOPAEDICS I

Course Code: BPT – 771

PT PRACTICALS

PRACTICAL: Practical shall be conducted for all the relevant topics discussed in theory in the following forms:

1. Bedside case presentations and case discussions

2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SEVENTH SEMESTER

PHYSIOTHERAPY IN NEUROLOGY I

Course Code: BPT – 702

1. Introduction: Neurological Assessment: Required materials for examination, Chief complaints, History taking – Present, Past, medical, familial, personal histories, Observation, Palpation, Higher mental function – Consciousness, Orientation, Wakefulness, memory, Speech, Reading, Language, Writing, Calculations, Perception, Left right confusion, Reasoning, and Judgment, Motor Examination – Muscle power, Muscle tone, Spasticity, Flaccidity, Reflexes – Developmental reflexes, deep tendon reflexes, Superficial reflexes, Sensory examination – Superficial, Deep and Cortical sensations, Special tests – Romberg's, Kernig's sign, Brudenzki sign, Tinels's sign, Slum test, Lehermitte's sign, Bells Phenomenon, Gower's sign, Sun set sign, Battle's sign, Glabellar tap sign, etc, Balance examination, coordination examination, Gait analysis – Kinetics & Kinematics (Quantitative & Qualitative analysis), Functional Analysis, Assessment tools & Scales – Modified Ashworth scale, Berg balance scale, FIM, Barthel index, Glasgow coma scale, Mini mental state examination, Rancho Los Amigos Scale for Head injury, APGAR score, ASIA scale, Reflex Grading. Differential diagnosis.

2.Brief review of the following conditions and various physiotherapeutic modalities, aim, means and techniques of physiotherapy applied for the conditions.

3. PT Management & PT assessment for the following Neurological conditions

a. Circulation of the brain & spinal cord, Cerebro-vascular accidents

b. Traumatic Injury of Head & Spine, Paraplegia

c. Acute infections of CNS – Encephalitis, Meningitis and Poliomyelitis.

d. Pyramidal & Extra Pyramidal lesions/disorders, Parkinsonism, Involuntary movements

e. Disorders of Nerve roots & peripheral nerves, cranial nerves & G.B. Syndrome

f. Disorders & Diseases of muscle like Polymyositis, Muscular Dystrophy

g. Myasthenia Gravis

h. Disorders of the spinal cord & cauda equina

i. Demyelinating diseases

j. Infections of the nervous system.

k. Hemiplegia

m. Tetraplegic Syndrome

l. Multiple Sclerosis

o. Tabes Dorsalis

p. Transverse Myelitis

q. Poliomyelitis

r. Parkinson's Disease

s. Motor Neuron Disease

t. Poly Neuritis Ataxia

u. Extra Pyramidal Lesion

v. Peripheral Neuropathy

w. Peripheral Nerve Injuries

x. Sciatica

y. Brachial Neuritis and Neuralgia

z. Facial Palsy and Bell's Palsy, Syringomyelia, Monoplegia, Myopathy and Muscular Dystrophy

Sub-acute Combined Degeneration of Spinal Cord

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SEVENTH SEMESTER

PHYSIOTHERAPY IN NEUROLOGY I

Course Code: BPT – 772 (PT PRACTICALS)

Practical shall be conducted for all the relevant topics discussed in theory in the following forms:

1. Bedside case presentations and case discussions

2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SEVENTH SEMESTER

PHYSIOTHERAPY IN GENERAL MEDICINE

Course Code: BPT – 703

Physiotherapy Management of wound ulcers- Care of ulcers and wounds - Care of surgical scars- U.V.R and other electro therapeutics for healing of wounds, prevention of Hyper-granulated Scars Keloids, Electrotherapeutics measures for relief of pain during mobilization of scars tissues.

Physiotherapy intervention in the management of Medical, Surgical and Radiation Oncology Cases

Physiotherapy in dermatology -Documentation of assessment, treatment and follow up of skin conditions, Psoriatic Arthritis, Syphilitic arthritis, Scleroderma, Leprosy. U.V.R therapy in various skin conditions; Vitiligo; Hair loss; Pigmentation; Infected wounds ulcers. Faradic foot bath for Hyperhydrosis. Care of anaesthetic hand and foot; Evaluation, planning and management of leprosy-prescription, fitting and training with prosthetic and orthotic devices

Physiotherapy in Geriatrics –

1. handling of old patients and their problems, Cognitive assessment: Mini Mental Scale
2. Activity limitation: Sit to stand & Transfers: Arm Curl, 30 sec Chair-Stand test, Back-Scratch test and Chair Sit and Reach test, Balance & Gait: Tinetti Performance-oriented Scale, Aerobic endurance: Six-minute walk test or Two minutes walk-in place test, Stair-climbing: Stair climb test

Participation restriction: World Health Organization Quality of Life instrument (WHOQoL), Geriatric Depression scale and Barthel Index.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SEVENTH SEMESTER

PHYSIOTHERAPY IN GENERAL MEDICINE

Course Code: BPT – 773 (PT PRACTICALS)

Practical shall be conducted for all the relevant topics discussed in theory in the following forms:

1. Bedside case presentations and case discussions

2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

3. Graded Exercise Testing, Spirometry, etc.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SEVENTH SEMESTER

PHYSIOTHERAPY IN GENERAL SURGERY INCLUDING

CARDIOTHORACIC SURGERY

Course Code: BPT – 704

Complication common to all operations

Physiotherapy in pre and post-operative stages for:

1. Operations on upper G.I.T.- oesophagus, stomach, duodenum
2. Operations on large and small intestine – Appendisectomy, cholecystectomy, partial colectomy, ileostomy, hernia and herniotomy, hernioraphy, hernioplasty
3. Burns and its treatment – physiotherapy in burns, skin grafts, and reconstructive surgeries.

Physiotherapy in burns, skin grafts, and reconstructive surgeries

Physiotherapy following Lung surgeries – Thoracotomy, Lobectomy, Thoracoplasty, Pneumonectomy

Cardio thoracic Surgery: CABG, pre- and post-operative physiotherapy management of cardiac surgery, valvular corrective surgeries.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SEVENTH SEMESTER

PHYSIOTHERAPY IN GENERAL SURGERY INCLUDING

CARDIOTHORACIC SURGERY

Course Code: BPT – 774 (PT PRACTICALS)

Practical shall be conducted for all the relevant topics discussed in theory in the following forms:

1. Bedside case presentations and case discussions

2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SEVENTH SEMESTER

PHYSIOTHERAPY IN CARDIOVASCULAR PULMONARY AND INTENSIVE CAREI

Course Code: BPT – 705

Bedside assessment of the patient-Adult &Pediatric.

Investigations and tests & Clinical Implication – Exercise tolerance Testing –

1. X-ray, ECG, ABG, ABI, 2D Echo, PFT, Doppler, Angiography, Blood investigations, Special tests, claudication time, pulses, auscultation, postural hypotension
2. Stress testing, 6 Minute Walk test &Harward Step test Skill & Interpretation, Shuttle Walk Test & Modified Bruce Protocol

Physiotherapy techniques to increase lung volume – controlled mobilization, positioning, breathing exercises, Neurophysiological Facilitation of Respiration, Mechanical aids - Incentive Spirometry, CPAP,IPPB.

Physiotherapy techniques to clear secretions – Hydration, Humidification & Nebulisation, Mobilisation and Breathing exercises, Postural Drainage, Manual techniques – Percussion, Vibration and Shaking, Rib Springing, ACBT, Autogenic Drainage, Mechanical Aids – PEP, Flutter, IPPB, Facilitation of Cough and Huff, Nasopharyngeal Suctioning.

Drug therapy – Drugs to prevent and treat inflammation, Drugs to treat Bronchospasm, Drugs to treat Breathlessness, Drugs to help sputum clearance, Drugs to inhibit coughing, Drugs to improve ventilation, Drugs to reduce pulmonary hypertension, Drug delivery doses, Inhalers and Nebulisers.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SEVENTH SEMESTER

PHYSIOTHERAPY IN CARDIOVASCULAR PULMONARY AND INTENSIVE CARE I

Course Code: BPT – 774 (PT PRACTICALS)

Practical shall be conducted for all the relevant topics discussed in theory in the following forms:

1. Bedside case presentations and case discussions

2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) SEVENTH SEMESTER

RESEARCH METHODOLOGY

Course Code: BPT – 706

A) Research in physiotherapy:

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 physiotherapeutic tests and measurements.

C) Research Design:

1. Principles of designing.
2. Methods – Descriptive, Exploratory, single subject, others.
3. Design models utilized in physiotherapy.

D) Interpretation of experimental findings:

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

❖ • ❖

SYLLABUS OF
EIGHTH SEMESTER

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) EIGHTH SEMESTER

PHYSIOTHERAPY IN ORTHOPAEDICS II

Course Code: BPT – 801

A. PT assessment for Orthopaedic conditions - SOAP format.

B. Lower Limb Fractures

Physiotherapy assessment in fracture cases. Aims of PT management in fracture cases - short- and long-term goals. Principles of PT management in fractures - Guidelines for fracture treatment during period of immobilization and guidelines for treatment after immobilization period.

C. Specific fractures and dislocations - PT assessment and management of lower limb fractures and dislocations including pelvis.

D. Describe the PT assessment and management and home program for the following conditions. Selection and application of physiotherapeutic techniques, manoeuvres, modalities for preventive, curative and rehabilitative means in all conditions:

    a. Bone Joint Tumors

    b. Chronic Arthritis

    c. Rheumatoid arthritis.

    d. Osteoarthritis of major joints and spine,

    e. Ankylosing spondylitis.

E. Define, review the postural abnormalities of spinal column, clinical features, deformities, medical and surgical management. Describe PT assessment and management and home program.

F. Describe the PT. assessment and management of the following conditions along with PT management after surgical corrections:

    a. Poliomyelitis

    b. Leprosy

    c. Cerebral palsy

    d. Congenital deformities: Congenital TalepusEquinoVarus (CTEV), Congenital Dislocation of the Hip, Flat foot, vertical talus, limb deficiency (radial club hand

and femoral, tibial and fibula deficiencies) meningomyelocele, Arthrogryposis multiplex congenita and Osteogenesis imperfecta

G. Amputations: Definition, levels, indications, types, PT assessment, aims, management pre and post operatively. PT management with emphasis on stump care and bandaging. Pre and post prosthetic training, checking out prosthesis, complications of amputations and its management

H. Amputations: Definition, levels, indications, types, PT assessment, aims, management pre and post operatively. PT management with emphasis on stump care and bandaging. Pre and post prosthetic training, checking out prosthesis, complications of amputations and its management

I. Sports Physiotherapy: Physical fitness. Stages of soft tissue healing. Treatment guidelines for soft tissue injuries- Acute, Sub acute and chronic stages. Repair of soft tissues- rupture of muscle, tendon and Ligamentous tears. Soft tissue injuries- prevention and rehabilitation

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) EIGHTH SEMESTER

PHYSIOTHERAPY IN ORTHOPAEDICS II

Course Code: BPT – 871 (PRACTICAL)

Practical shall be conducted for all the relevant topics discussed in theory in the following forms:

1. Bedside case presentations and case discussions

2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) EIGHTH SEMESTER

PHYSIOTHERAPY IN NEUROLOGY II

Course Code: BPT – 802

A. Neuro physiological Techniques – Concepts, Principles, Techniques, Effects of following Neurophysiological techniques: **NDT**, PNF, Vojta therapy, Rood's Sensory motor Approach, Sensory Integration Approach, Brunnstorm movement therapy, Motor relearning program, Contemporary task-oriented approach, Muscle re-education approach and Constraint induced movement therapy

B. Evaluation and Management of Brain and Spinal Cord Disorders : History, Observation, Palpation, Higher mental function, Cranial nerve examination, Motor & Sensory examination, Reflex testing, differential Diagnosis, Balance & Coordination examination, Gait analysis, Functional analysis, List of Problems & Complications, short & Long Term goals, Management of systemic complications, Management of Mechanical Complications, Use of various Neurophysiological approaches & Modalities in the following:

Meningitis, Encephalitis, Perceptual disorders, Amyotrophic lateral sclerosis, Cervical & Lumbar Spondylosis, Disc Prolapse and Intracranial Tumors, Deafness, vertigo, and imbalance, Lower cranial nerve paralysis, Higher cortical, neuro psychological and neurobehavioral disorders, Perceptual and Speech Disorders, Cerebellar and coordination disorders

C. Pre and post-surgical assessment and treatment following conditions - Spinal disc herniation, Spinal stenosis, Spinal cord trauma, Head trauma, Brain tumors, Tumors of the spine, Spinal cord and peripheral nerves, Cerebral aneurysms, Subarachnoid haemorrhages, epilepsy, Parkinson's disease, Chorea, Hemiballism, Psychiatric disorders, Malformations of the nervous system, Carotid artery stenosis , Arteriovenous malformations, and Spina bifida

D. Assessment and management of Neurological gaits: Quantitative and Qualitative (Kinetic & Kinematics) analysis, List of Problems, short- & Long-Term goals, Management of following Neurological Gaits - Hemiplegic gait, Parkinson gait, High step gait, Hyperkinetic gait, Hypokinetic gait, Waddling gait, Scissoring gait, Spastic gait, Chorea form Gait, Diplegic Gait, and Myopathic Gait.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) EIGHTH SEMESTER

PHYSIOTHERAPY IN NEUROLOGY II

Course Code: BPT – 872 (PRACTICAL)

Practical shall be conducted for all the relevant topics discussed in theory in the following forms:

1. Bedside case presentations and case discussions

2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)
BACHELOR OF PHYSIOTHERAPY (BPT) EIGHTH SEMESTER

PHYSIOTHERAPY IN PAEDIATRICS

Course Code: BPT – 803

A. Paediatrics

milestonesPaediatric Examination, Developmental, developmental reflexes, Neuro developmental screening tests.

Evaluation & Management - History, Observation, Palpation, Milestone Examination, developmental reflex Examination, Higher mental function, Cranial nerve examination, Motor & Sensory examination, Reflex testing, differential Diagnosis, Balance & Coordination examination,

Use of various Neurophysiological approaches & Modalities in Risk babies, Minimum brain damage,

Physiotherapy in Developmental disorders, Cerebral palsy, Autism, Down's Syndrome, Hydrocephalus, Chorea, Spina bifida, and syringomyelia.

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) EIGHTH SEMESTER

PHYSIOTHERAPY IN PAEDIATRICS

Course Code: BPT – 873 (PRACTICAL)

Practical shall be conducted for all the relevant topics discussed in theory in the following forms:

1. Bedside case presentations and case discussions

2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) EIGHTH SEMESTER

PHYSIOTHERAPY IN OBSTETRICS & GYNECOLOGY

Course Code: BPT – 804

A. Brief review of the following surgical conditions and various physiotherapeutic modalities, aims, means and techniques of physiotherapy should be covered:
   a. Hysterectomy
   b. Prolapsed Uterus
   c. Antenatal and postnatal care
   d. Pregnancy and its stages, labour, stages of labour, delivery, Caesarean Section, Diastasis Recti etc
   e. Child birth complications, complication of multiple child birth

Physiotherapy in mother and child care – ante and post-natal management, early intervention and stimulation therapy in child care (movement therapy)

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) EIGHTH SEMESTER

PHYSIOTHERAPY IN OBSTETRICS & GYNECOLOGY

Course Code: BPT – 874 (PRACTICAL)

Practical shall be conducted for all the relevant topics discussed in theory in the following forms:

1. Bedside case presentations and case discussions

2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

❖ • ❖

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) EIGHTH SEMESTER

PHYSIOTHERAPY IN CARDIOVASCULAR PULMONARY AND INTENSIVE CARE II

Course Code: BPT – 805

Physiotherapy in Respiratory conditions: Obstructive lung conditions, Restrictive lung conditions.

Introduction to ICU: ICU monitoring –Apparatus, Airways and Tubes used in the ICU - Physiotherapy in the ICU – Common conditions in the ICU – Tetanus, Head Injury, Lung Disease, Pulmonary Oedema, Multiple Organ Failure, Neuromuscular Disease, Smoke Inhalation, Poisoning, Aspiration, Near Drowning, ARDS, Shock; Dealing with an Emergency Situation in the ICU

Respiratory failure – Oxygen Therapy and Mechanical Ventilation

Pulmonary Rehabilitation

Cardiac Rehabilitation

Treatment, Response to exercise and Implications of Physiotherapy in the following disease conditions: Hypertension, Diabetes, Renal Failure and Obesity

Neonatal and Pediatric Physiotherapy – Chest physiotherapy for children, The neonatal unit, Modifications of chest physiotherapy for specific neonatal disorders, Emergencies in the neonatal unit

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) EIGHTH SEMESTER

PHYSIOTHERAPY IN CARDIOVASCULAR PULMONARY AND INTENSIVE CARE II

Course Code: BPT – 875 (PRACTICAL)

Practical shall be conducted for all the relevant topics discussed in theory in the following forms:

1. Bedside case presentations and case discussions

2. Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

THE NEOTIA UNIVERSITY (TNU)
BACHELOR OF PHYSIOTHERAPY (BPT) EIGHTH SEMESTER

REHABILITATION & DISABILITY PREVENTION

Course Code: BPT – 806

1. Rehabilitation: Definition, Types. Definition concerned in the phases of disability process, explanation of its aims and principles, Scope of rehabilitation

2. Community and Rehabilitation

3. Disability: Definition of Impairment, Handicap and Disability, Difference between impairment, handicap and disability, Causes of disability, Types of disability, Prevention of disability, Disability in developed countries, Disability in developing countries. Disability Surveys: Demography. Screening: Early detection of disabilities and developmental disorders, Prevention of disabilities- Types and levels.

4. Disability Evaluation: Introduction, What, Why and How to evaluate, Quantitative versus Qualitative data, Uses of evaluation findings.

5. Definition concerned with the causes of Impairment Functional limitation and Disability.

6. Legislations for rehabilitation services for the Disabled, P.W.D.National Trust, ADIP project Act.

7. Rehabilitation Team & its members, their role.

8. Behavioural problems in the Disabled its principle of management.

9. Architectural barriers possible modifications in relation to different disabled conditions.

10. Role of Physiotherapy in CBR: Screening for disabilities, Prescribing exercise programme, Prescribing and devising low cost locally available assistive aids, Modifications physical and architectural barriers for disabled, Disability prevention, Strategies to improve ADL, Rehabilitation programmes for various neuro-musculoskeletal and cardiothoracic disabilities.

11. Community based rehabilitation vs Institutional based rehabilitation

12.Vocational training in rehabilitation: Introduction, Need, Vocational evaluation, Vocational rehabilitation services.

13. Principles of Communication & its problems: Speech Production, Communication disorders secondary to Brain Damage., Aphasia and its treatment., Evaluating Language, Dysarthria and its treatment, Non-aphasic language disorder

THE NEOTIA UNIVERSITY (TNU)

BACHELOR OF PHYSIOTHERAPY (BPT) EIGHTH SEMESTER

REHABILITATION & DISABILITY PREVENTION

Course Code: BPT – 876 (PRACTICAL)

1.This will consist of Field visits to urban and rural PHC's.

2. Visits to regional rehabilitation training centre, Regular mobile camps, Disability surveys in villages, Disability screening, Demonstration of Evaluation and Physiotherapy prescription techniques for musculoskeletal, neuromuscular, cardio-respiratory, paediatric, gynaecological and geriatric problems in community

❖ • ❖