CHARUTAR VIDYA MANDAL UNIVERSITY

FACULTY OF PHYSIOTHERAPY

RITA A. PATEL INSTITUTE OF PHYSIOTHERAPY

BPT - Semester II

Course Code: BPT – 110

Course Title: Human Anatomy -2

Course Credit Hours:

Hrs. / Wk			Credits			Marks		Total Marks
L	P	T	L	P	T	Theory	Practical	
4	6	10	4	3	7	100	100	200

Course Outline: Studies are concerned with the topographical and functional anatomy of the limbs and thorax. Particular attention is paid to the muscles, bones and joints of the regions. The head and neck and central nervous system (CNS) are studied with particular reference to topics of importance to physiotherapists. The study of the CNS includes detailed consideration of the control of motor function.

Sr No	Title of the Unit	Minimum number of Hours
1.	Upper Extremity	45
2.	Thorax	40
3.	Trunk & Abdomen	35
4.	Head and Neck	35
5.	Neuro Anatomy	35

Total hours (Theory): 76 Hrs

Total hours (Practical): 114 Hrs

Total hours: 190 Hrs

Unit Sr No	Course Content	Hours of Teaching
1	**Upper Extremity**	**45 Hours**
1.1	Osteology: Clavicles, Scapula, Humerus, Radius, Ulna, Carpals, Metacarpals, Phalanges	
1.2	Soft parts: Breast, pectoral region, axilla, front of arm, back of arm, cubital fossa, front of fore arm, back of fore arm, palm, dorsum of hand, muscles, nerves, blood vessels and lymphatic drainage of upper extremity	
1.3	Joints: Shoulder girdle, shoulder joint, elbow joints, radio ulnar joint, wrist joint and joints of the hand	
1.4	Arches of hand, skin of the palm and dorsum of hand	
2	**Thorax**	**40 Hours**
2.1	Cardio – Vascular System Mediastinum: Divisions and contents Pericardium: Thoracic Wall: position, shape and parts of the heart; conducting System; blood Supply and nerve supply of the heart; names of the blood vessels and their distribution in the body – region wise	
2.2	Respiratory system - Outline of respiratory passages: Pleura and lungs: position, parts, relations, blood supply and nerve supply; Lungs – emphasize on bronchopulmonary segments	
2.3	Diaphragm: Origin, insertion, nerve supply and action, openings in the diaphragm	
2.4	Intercostal muscles and Accessory muscles of respiration: Origin, insertion, nerve supply and action	
3	**Trunk & Abdomen**	**35 Hours**
3.1	Osteology: Cervical, thoracic, lumbar, sacral and coccygeal vertebrae and ribs	
3.2	Soft tissue: Pre and Para vertebral muscles, intercostals muscles, anterior abdominal wall muscles, Inter-vertebral disc	
3.3	Peritoneum: Parietal peritoneum, visceral peritoneum, folds of peritoneum, functions of peritoneum	
3.4	Large blood vessels of the gut	
3.5	Location, size, shape, features, blood supply, nerve supply and functions of the following: stomach, liver, spleen, pancreas, kidney, urinary bladder, intestines, gall bladder	
4	**Head and Neck**	**35 Hours**

4.1	Osteology: Mandible and bones of the skull.	
4.2	Soft parts: Muscles of the face and neck and their nerve and blood supply-extra ocular muscles, triangles of the neck	
4.3	Gross anatomy of eyeball, nose, ears and tongue	
5	**Neuro Anatomy**	**35 Hours**
5.1	Organization of Central Nervous system - Spinal nerves and autonomic nervous system mainly pertaining to cardiovascular, respiratory and urogenital system. i. Cranial nerves ii. Peripheral nervous system iii. Peripheral nerve iv. Neuromuscular junction v. Sensory end organs vi. Central Nervous System vii. Spinal segments and areas viii. Brain Stem ix. Cerebellum x. Inferior colliculi xi. Superior Colliculi xii. Thalamus xiii. Hypothalamus xiv. Corpus striatum xv. Cerebral hemisphere xvi. Lateral ventricles xvii. Blood supply to brain xviii. Basal Ganglia xix. The pyramidal system xx. Pons, medulla, extra pyramidal systems xxi. Anatomical integration	

Course Outcomes (COs):

At the end of the course, the students will be able to

CO1	Describe common anatomical terms

CO2	Recognize anatomical structures and describe the topographic anatomy of the regions of abdomen, pelvis, perineum, thorax, and extremities
CO3	Describe the anatomy of the components of organ systems of the body based on the anatomical region. (Thorax, abdomen, pelvis, and perineum)
CO4	Describe the components nervous system, including the cerebrum, brainstem, cerebellum, spinal cord, peripheral nerves, sensory motor, and autonomic nervous system
CO5	Identify clinically relevant injuries, lesions and anatomical malformations including musculoskeletal and nervous system

Recommended Text Books:

1. Chaurasia BD. Human anatomy Volume- I, II & III, CBS Publisher
2. Inderbir Singh, Text book of Anatomy with color Atlas – Vol. 1, 2, 3. Jaypee Brothers
3. Snell RS. Clinical anatomy: an illustrated review with questions and explanations. Lippincott Williams & Wilkins; 2004
4. Textbook of Anatomy, Vol 1,2,3 by Vishram Singh

Recommended Reference Books:

1. Gray's Anatomy, Latest edition, Elsevier Publications
2. Snell – Clinical Anatomy- Lippincott
3. Principles of anatomy and physiology by Tortora; Latest edition; Harper & Row Publications
4. Cunningham's Manual of Practical Anatomy; Latest edition, Vol: 1, 2, 3; Oxford Publications

CO-PO-PSO Matrix

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3	PS O4	PS O5
CO1	1	1	-	1	-	1	-	-	1	-	1	1	3	1	-	1	-
CO2	1	1	-	1	-	1	-	-	1	-	1	1	3	1	-	1	-
CO3	1	1	-	1	-	1	-	-	1	-	1	1	3	1	-	1	-
CO4	1	1	-	1	-	1	-	-	1	-	1	1	3	1	-	1	-
CO5	1	1	-	1	-	1	-	-	1	-	1	1	3	1	-	1	-

CHARUTAR VIDYA MANDAL UNIVERSITY

FACULTY OF PHYSIOTHERAPY

RITA A. PATEL INSTITUTE OF PHYSIOTHERAPY

BPT - Semester II

Course Code: BPT – 111

Course Title: Human Physiology -2

Course Credit Hours:

Hrs. / Wk			Credits			Marks		Total Marks
L	P	T	L	P	T	Theory	Practical	
5	2	7	5	1	6	100	100	200

Course Outline: The course is designed to give the student an in-depth knowledge of fundamental reactions of living organisms, particularly in the human body. The major topics covered include the following: the cell; primary tissue; connective tissue; skin; muscle; nervous tissue; blood; lymphoid tissues; respiration; blood vessels; circulation; cardiac cycle; systemic circulation; gastrointestinal tract; kidneys; uterus; urinary tract; pregnancy; endocrine system.

Sr No	Title of the Unit	Minimum number of Hours
1.	Special Senses	24
2.	Nervous System	35
3.	Renal System	30
4.	Reproductive System	24
5.	Physiology of exercise	20

Total hours (Theory): 95 Hrs

Total hours (Practical): 38 Hrs

Total hours: 133 Hrs

Unit Sr No	Course Content	Hours of Teaching
1	**Special Senses**	**24 Hours**
1.1	Vision: Introduction: Functional anatomy of eye ball, Functions of cornea, iris, pupil, aqueous humor – glaucoma, lens – cataract, vitreous humor, rods and cones, Photopic vision, Scotopic vision	
1.2	Visual Pathway and the effects of lesions	
1.3	Refractive Errors: myopia, hypermetropia, presbyopia and astigmatism	
1.4	Visual Reflexes: Accommodation, Pupillary and Light, Visual acuity and Visual field, Light adaptation, Dark adaptation, Color vision – color blindness, Nyctalopia	
1.5	Audition: Physiological anatomy of the ear, Functions of external ear, middle ear and inner ear, Structure of Cochlea and organ of corti, Auditory pathway, Types of Deafness, Tests for hearing, Audiometry	
1.6	Taste: Taste buds, Primary tastes, Gustatory pathway	
1.7	Smell: Olfactory membrane, Olfactory pathway	
1.8	Vestibular Apparatus: Crista ampullaris and macula, Funcions, Disorders	
1.9	Applied Physiology: Special senses - Vision, taste, hearing, vestibular, Olfaction	
2	**Nervous System**	**35 Hours**
2.1	Introduction: Organisation of CNS – central and peripheral nervous system, Functions of nervous system, Synapse: Functional anatomy, classification, Synaptic transmission, Properties	
2.2	Sensory Mechanism: Sensory receptors: function, classification and properties, Sensory pathway: The ascending tracts – Posterior column tracts, lateral spinothalamic tract and the anterior spinothalamic tract – their origin, course, termination and functions, The trigeminal pathway, Sensory cortex, Somatic sensations: crude touch, fine touch, tactile localization, tactile discrimination, stereognosis, vibration sense, kinesthetic sensations Pain sensation: mechanism of pain, Cutaneous pain –slow and fast pain, hyperalgesia, Deep pain, Visceral pain – referred pain, Gate control theory of pain, tabes dorsalis, sensory ataxia	
2.3	Motor Mechanism: Motor Cortex	

	Motor pathway: The descending tracts – pyramidal tracts, extrapyramidal tracts – origin, course, termination and functions, Upper motor neuron and lower motor neuron, Paralysis, monoplegia, paraplegia, hemiplegia and quadriplegia	
2.4	Reflex Action: components, Bell-Magendie law, classification and Properties Monosynaptic and polysynaptic reflexes, superficial reflexes, deep reflexes.Stretch reflex– structure of muscle spindle, pathway, higher control and functions, Inverse stretch reflex Muscle tone – definition, and properties hypotonia, atonia and hypertonia, UMNL and LMNL	
2.5	Spinal cord Lesions: Complete transection and Hemisection of the spinal cord	
2.6	Cerebellum: Functions, Cerebellar ataxia	
2.7	Posture and Equilibrium: Postural reflexes – spinal, medullary, midbrain and cerebral reflexes	
2.8	Thalamus and Hypothalamus: Nuclei, Functions, Thalamic syndrome	
2.9	Reticular Formation and Limbic System: Components and Functions	
2.10	Basal Ganglia: Structures included and functions, Parkinson's disease	
2.11	Cerebral Cortex: Lobes, Brodmann's areas and their functions, Higher functions of cerebral cortex – learning, memory and speech	
2.12	EEG: Waves and features, Sleep: REM and NREM sleep	
2.13	CSF: Formation, composition, circulation and functions, Lumbar puncture and its significance, Blood brain barrier, Hydrocephalus	
2.14	ANS: Features and actions of parasympathetic and sympathetic nervous system	
3	**Renal System**	**30 Hours**
3.1	Introduction: Physiological anatomy. Nephrons – cortical and juxtamedullary, Juxta glomerular apparatus, Glomerular membrane, Renal blood flow and its regulation, Functions of kidneys	
3.2	Mechanism of Urine Formation: Glomerular Filtration: Mechanism of glomerular filtration, GFR – normal value and factors affecting, Renal clearance, Inulin clearance, Creatinine clearance	
3.3	Tubular Reabsorption: Reabsorption of Na+, glucose, HCO3-, urea and water, Filtered load, Renal tubular transport maximum, Glucose clearance: TmG, Renal threshold for glucose	

3.4	Tubular Secretion: Secretion of H+ and K+, PAH clearance	
3.5	Mechanism of concentrating and diluting the Urine: Counter-current mechanism, Regulation of water excretion, Diuresis, Diuretics	
3.6	Micturition: Mechanism of micturition, Cystometrogram, Atonic bladder, automatic bladder	
3.7	Acid-Base balance (very brief)	
3.8	Artificial Kidney: Principle of hemodialysis	
3.9	Skin and temperature regulation	
4	**Reproductive System**	**24 Hours**
4.1	Introduction: Physiological anatomy reproductive organs, Sex determination, Sex differentiation, Disorder	
4.2	Male Reproductive System: Functions of testes, Pubertal changes in males, Spermatogenesis, Testosterone: action, Regulation of secretion, Semen	
4.3	Female Reproductive System: Functions of ovaries and uterus, Pubertal changes in females, Oogenesis, Hormones: estrogen and progesterone-action, Regulation of secretion, Menstrual Cycle: Phases, Ovarian cycle, Uterine cycle, Hormonal basis, Menarche, Menopause Pregnancy: Pregnancy tests. Physiological changes during pregnancy, Functions of placenta, Lactation, Contraception methods	
5	**Physiology of exercise**	**20 Hours**
5.1	Effects of acute and chronic exercise on i. O2 transport ii. Muscle strength/power/endurance iii. B.M.R. /R.Q. iv. Hormonal and metabolic effect v. Cardiovascular system vi. Respiratory system vii. Body fluids and electrolyte	
5.2	Effect of gravity / altitude /acceleration / pressure on physical parameters	
5.3	Physiology of Age	

Course Outcomes (COs):

At the end of the course, the students will be able to

CO1	Describe the key physiological terms
CO2	Explain the functions of cardio-vascular, respiratory, musculoskeletal and nervous systems including regulatory mechanism
CO3	Describe the functions of digestive, renal and reproductive systems
CO4	Demonstrate competencies in performing common physiological and anthropological measurements
CO5	Discuss the common physiological deviations of cardio-vascular, respiratory, musculoskeletal and nervous systems related to physiotherapy practice
CO6	Explain normal physiological changes of various systems during exercise
CO7	Discuss the physiological adaptions to exercise

Recommended Text Books:

1. Human Physiology – Vol. 1 & 2, Chatterjee. CC, Calcutta. Medical Allied
2. Concise Medical Physiology Chaudhari, 4th Edition S.K, New Central Agency, Calcutta
3. Human Physiology, Sembulingam: 9th Edition, Jaypee Brothers
4. Principles of Anatomy and Physiology. Tortora & Grabowski –Harper Collins
5. Text book of Practical Physiology Ghai – Jaypee

Recommended Reference Books:

1. Textbook of Medical Physiology by Guyton & Hall, 11th edition; Elseveir Publication
2. Principles of Anatomy & Physiology, Tortora, 8th Edition; Harper & Row Publication
3. Best & Taylor's Physiological Basis of Medical Practice

CO-PO-PSO Matrix

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3	PS O4	PS O5
CO1	1	1	-	1	-	1	-	-	1	-	1	1	3	1	-	1	-
CO2	1	1	-	1	-	1	-	-	1	-	1	1	3	1	-	1	-
CO3	1	1	-	1	-	1	-	-	1	-	1	1	3	1	-	1	-
CO4	1	1	-	1	-	1	-	-	1	-	1	1	3	1	-	1	-
CO5	1	1	-	1	-	1	-	-	1	-	1	1	3	1	-	1	-
CO6	1	1	-	1	-	1	-	-	1	-	1	1	3	1	1	1	-
CO7	1	1	-	1	-	1	-	-	1	-	1	1	3	1	1	1	-

CHARUTAR VIDYA MANDAL UNIVERSITY

FACULTY OF PHYSIOTHERAPY

RITA A. PATEL INSTITUTE OF PHYSIOTHERAPY

BPT - Semester II

Course Code: BPT – 112

Course Title: General and Clinical Psychology

Course Credit Hours:

Hrs. / Wk			Credits			Marks		Total Marks
L	P	T	L	P	T	Theory	Practical	
4	-	4	4	-	4	50	-	50

Course Outline: Human Psychology involves the study of various behavioral patterns of individuals, theories of development, normal and abnormal aspects of motor, social, emotional and language development, communication and interaction skills appropriate to various age groups. The study of these subjects will help the student to understand their clients while assessment and while planning appropriate treatment methods.

Sr No	Title of the Unit	Minimum number of Hours
1.	Introduction to Psychology	05
2.	Growth and Development	04
3.	Sensation, attention and perception	08
4.	Motivation	07
5.	Frustration and conflict	07
6.	Emotions	08
7.	Intelligence	07
8.	Thinking	08
9.	Learning	07
10.	Personality	08
11.	Social psychology	04
12.	Clinical psychology	03

Total hours (Theory): 76 Hrs

Total hours (Practical): 00 Hrs

Total hours: 76 Hrs

Unit Sr No	Course Content	Hours of Teaching
1	**Introduction to Psychology**	**5 Hours**
1.1	Schools: Structuralism, functionalism, behaviorism, Psychoanalysis	
1.2	Methods: Introspection, observation, inventory and experimental method	
1.3	Branches: pure psychology and applied psychology	
1.4	Psychology and physiotherapy	
2	**Growth and Development**	**4 Hours**
2.1	Life span: Different stages of development (Infancy, childhood, adolescence, adulthood, middle age, old age)	
2.2	Heredity and environment: role of heredity and environment in physical and psychological development, "Nature v/s Nurture controversy"	
3	**Sensation, attention and perception**	**8 Hours**
3.1	Sensation: Vision, Hearing, Olfactory, Gustatory and Cutaneous sensation, movement, equilibrium and visceral sense	
3.2	Attention: Types of attention, Determinants of attention (subjective determinants and objective determinants)	
3.3	Perception: Gestalt principles of organization of perception (principle of figure ground and principles of grouping), factors influencing perception (past experience and context)	
3.4	Illusion and hallucination: different types	
4	**Motivation**	**7 Hours**
4.1	Motivation cycle (need, drive, incentive, reward)	
4.2	Classification of motives	
4.3	Abraham Maslow's theory of need hierarchy	
5	**Frustration and conflict**	**7 Hours**
5.1	Frustration: sources of frustration	
5.2	Conflict: types of conflict	
5.3	Management of frustration and conflict	
6	**Emotions**	**8 Hours**

6.1	Three levels of analysis of emotion (physiological level, subjective state, and overt behavior)	
6.2	Theories of emotion	
6.3	Stress and management of stress	
7	**Intelligence**	**7 Hours**
7.1	Theories of intelligence	
7.2	Distribution of intelligence	
7.3	Assessment of intelligence	
8	**Thinking**	**8 Hours**
8.1	Reasoning: deductive and inductive reasoning	
8.2	Problem solving: rules in problem solving (algorithm and heuristic)	
8.3	Creative thinking: steps in creative thinking, traits of creative people	
9	**Learning**	**7 Hours**
9.1	Factors effecting learning	
9.2	Theories of learning: trial and error learning, classical conditioning, Operant conditioning, insight learning, social learning theory	
9.3	The effective ways to learn: Massed/Spaced, Whole/Part, Recitation/Reading, Serial/Free recall, Incidental/Intentional learning, Knowledge of results, association, organization, and mnemonic methods	
10	**Personality**	**8 Hours**
10.1	Approaches to personality: type & trait, behavioristic, psychoanalytic and humanistic approach	
10.2	Personality assessment: observation, situational test, questionnaire, rating scale, interview, and projective techniques	
10.3	Defense Mechanisms: denial of reality, rationalization, projection, reaction formation, identification, repression, regression, intellectualization, undoing, introjection, acting out	
11	**Social psychology**	**4 Hours**
11.1	Leadership: Different types of leaders, Different theoretical approaches to leadership	
11.2	Attitude: development of attitude, Change of attitude	
12	**Clinical psychology**	**3 Hours**

12.1	Models of training, abnormal behavior assessment, clinical judgement, psychotherapy, self-management methods, physiotherapist patient interaction, aggression, self-imaging, stress management, assertive training, Group therapy, Body awareness, Pediatric, child and geriatric clinical psychology

Course Outcomes (COs):

At the end of the course, the students will be able to

CO1	Describe the principles of psychology and it relationship to human behaviour
CO2	Discuss the theories of psychology and its implications to health
CO3	Discuss physiology of emotions and its applications in health care
CO4	Explain the theories of motivation
CO5	Discuss the theories, concepts, development and assessment of personality
CO6	Explain the concepts of intelligence and its assessment
CO7	Describe the psychological concepts of frustration
CO8	Apply the principles of psychology in clinical decision making

Recommended Text Books:

1. Morgan C.T. & King R.A. Introduction to Psychology– recent edition [Tata McGraw-Hill publication]
2. Munn N.L. Introduction to Psychology [Premium Oxford, I.B.P. publishing.]
3. Clinical Psychology –Akolkar
4. Hurlock EB. Development psychology. McGraw-Hill

Recommended Reference Books:

1. Psychology: The Study of Human Behaviour, Mishra B.K, PHI Learning
2. Essentials of Educational Psychology, Skinner Charles E, Surjeet Publication
3. Introduction to psychology Atkinson RL Hilgard ER 2019
4. Abnormal Psychology Sarason IG Sarason BR Prentice Hall India

CO-PO-PSO Matrix

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3	PS O4	PS O5
CO1	2	2	2	2	2	1	1	1	1	1	2	2	2	2	2	2	1
CO2	2	2	2	2	2	1	1	2	2	1	2	2	2	2	2	2	1
CO3	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	1
CO4	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	1
CO5	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	1
CO6	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	1
CO7	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	1
CO8	2	3	2	3	2	2	3	2	2	2	2	2	2	2	2	2	2

CHARUTAR VIDYA MANDAL UNIVERSITY

FACULTY OF PHYSIOTHERAPY

RITA A. PATEL INSTITUTE OF PHYSIOTHERAPY

BPT - Semester II

Course Code: BPT – 113

Course Title: Basic principles of Biomechanics

Course Credit Hours:

Hrs. / Wk			Credits			Marks		Total Marks
L	P	T	L	P	T	Theory	Practical	
3	2	5	3	1	4	50	50	100

Course Outline: Biomechanics involves the study of basic concepts of human movement, and application of various biomechanical principles in the evaluation and treatment of disorders of musculoskeletal system. Students are taught to understand the various quantitative and qualitative methods of movement. Mechanical principles of various treatment methods are studied. Study of posture and gait are also included.

Sr No	Title of the Unit	Minimum number of Hours
1.	Basic Concepts in Biomechanics: Kinematics and Kinetics	25
2.	Joint structure and Function	20
3.	Muscle structure and function	20
4.	Biomechanics of the Thorax and Chest wall	20
5.	The Temporomandibular Joint	10

Total hours (Theory): 57 Hrs

Total hours (Practical): 38 Hrs

Total hours: 95 Hrs

Unit Sr No	Course Content	Hours of Teaching
1	**Basic Concepts in Biomechanics: Kinematics and Kinetics**	**25 Hours**
1.1	Types of Motion	
1.2	Location of Motion	
1.3	Direction of Motion	
1.4	Magnitude of Motion	
1.5	Definition of Forces	
1.6	Force of Gravity	
1.7	Reaction forces	
1.8	Equilibrium	
1.9	Objects in Motion	
1.10	Force of friction	
1.11	Concurrent force systems	
1.12	Parallel force system	
1.13	Work	
1.14	Moment arm of force	
1.15	Force components	
1.16	Equilibrium of levers	
2	**Joint structure and Function**	**20 Hours**
2.1	Joint design	
2.2	Materials used in human joints	
2.3	General properties of connective tissues	
2.4	Human joint design	
2.5	Joint function	
2.6	Joint motion	
2.7	General effects of disease, injury and immobilization	

3	**Muscle structure and function**	**20 Hours**
3.1	Mobility and stability functions of muscles	
3.2	Elements of muscle structure	
3.3	Muscle function	
3.4	Effects of immobilization, injury and aging	
4	**Biomechanics of the Thorax and Chest wall**	**20 Hours**
4.1	General structure and function	
4.2	Rib cage and the muscles associated with the rib cage	
4.3	Ventilatory motions: its coordination and integration	
4.4	Developmental aspects of structure and function	
4.5	Changes in normal structure and function I relation to pregnancy, scoliosis and COPD	
5	**The Temporomandibular Joint**	**10 Hours**
5.1	General features, structure, function and dysfunction	

Course Outcomes (COs):

At the end of the course, the students will be able to

CO1	Discuss the principles of physics and laws related to human movement
CO2	Demonstrate understanding of functional movement (kinetics and kinematics) of human body
CO3	Identify the relationship between structure, function, and mechanical properties of movement system
CO4	Analyze the components of human movement both in normal and pathological conditions

Recommended Text Books:

1. Cynthia C, Norkin D, Pamela K. Joint structure and function. A comprehensive analysis
2. Houglum PA, Bertoti DB. Brunnstrom's clinical kinesiology. FA Davis; 2011

Recommended Reference Books:

1. Hamill J, Knutzen KM. Biomechanical basis of human movement. Lippincott Williams & Wilkins; 2006 Oct1

2. Margareta Nordin: Basic Biomechanics of Musculoskeletal System, 4thEdition

3. Oatis CA. Kinesiology: the mechanics and pathomechanics of human movement. Lippincott Williams & Wilkins; 2009

4. Steindler A. Kinesiology of the human body under normal and pathological conditions. Spring-field, IL. Charles C Thomas

CO-PO-PSO Matrix

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3	PS O4	PS O5
CO1	3	2	2	2	2	2	1	1	2	1	1	2	3	2	2	2	1
CO2	3	2	2	2	2	2	1	1	2	1	1	2	3	2	2	2	1
CO3	3	2	2	2	2	2	1	1	2	1	1	2	3	2	2	2	1
CO4	3	3	3	2	2	3	2	2	2	2	2	2	2	2	2	2	2

CHARUTAR VIDYA MANDAL UNIVERSITY

FACULTY OF PHYSIOTHERAPY

RITA A. PATEL INSTITUTE OF PHYSIOTHERAPY

BPT - Semester II

Course Code: BPT – 114

Course Title: Medical terminology and record keeping

Course Credit Hours:

Hrs. / Wk			Credits			Marks		Total Marks
L	P	T	L	P	T	Theory	Practical	
2	-	2	2	-	2	50	-	50

Course Outline: This course introduces the elements of medical terminology. Emphasis is placed on building familiarity with medical words through knowledge of roots, prefixes, and suffixes. Topics include: origin, word building, abbreviations and symbols, terminology related to the human anatomy, reading medical orders and reports, and terminology specific to the student's field of study. Spelling is critical and will be counted when grading tests.

Sr No	Title of the Unit	Minimum number of Hours
1.	Definition and derivation for medical terminologies	20
2.	Record keeping	18

Total hours (Theory): 38 Hrs

Total hours (Practical): 00 Hrs

Total hours: 38 Hrs

Unit Sr No	Course Content	Hours of Teaching
1	**Definition and derivation for medical terminologies**	**20 Hours**
1.1	Derivation of medical terms	
1.2	Define word roots, prefixes, and suffixes	
1.3	Conventions for combined morphemes and the formation of plurals	
1.4	Basic medical terms in health care and physiotherapy	
1.5	Form medical terms utilizing roots, suffixes, prefixes, and combining roots	
1.6	Interpret basic medical abbreviations/symbols	
2	**Record keeping**	**18 Hours**
2.1	Utilize diagnostic, surgical, and procedural terms and abbreviations related to the integumentary system, musculoskeletal system, respiratory system, cardiovascular system, nervous system, and endocrine system	
2.2	Interpret medical records/reports	
2.3	Data entry and management on electronic health record system	

Course Outcomes (COs):

At the end of the course, the students will be able to

CO1	Describe insight into the main features of medical terminology and record keeping
CO2	Interpret the meaning of medical words and phrases commonly used in a medical office or similar environment
CO3	Evaluate basic medical terminology and records

Recommended Text Books:

1. Medical terminology, an illustrated guide: Barbara JansonCohen;4 thedition2004
2. Record keeping in psychotherapy and counseling Protecting the confidentiality and professional relationship : Ellen T Luepker; 1st edition:2004

Recommended Reference Books:

1. An introduction to medical terminology for healthcare : A self- teaching package: Andrew R Hutton : 3rd edition
2. Electronic health records a practical guide for professionals and organizations: Margret K.A matayakul

CO-PO-PSO Matrix

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3	PS O4	PS O5
CO1	1	1	-	1	-	-	-	-	1	1	1	1	3	1	1	1	-
CO2	1	1	-	1	-	-	-	-	1	1	1	1	3	1	1	1	-
CO3	1	1	-	1	-	-	-	-	1	1	1	1	3	1	1	1	-

CHARUTAR VIDYA MANDAL UNIVERSITY

FACULTY OF PHYSIOTHERAPY

RITA A. PATEL INSTITUTE OF PHYSIOTHERAPY

BPT - Semester II

Course Code: BPT – 115

Course Title: Clinical observation

Course Credit Hours:

Hrs. / Wk			Credits			Marks		Total Marks
L	P	T	L	P	T	Theory	Practical	
-	6	6	-	2	2	-	100	100

Course Outline: The objective of this foundation course is to sensitize potential learners with essential knowledge; this will lay a sound foundation for their learning across the under-graduate program and across their career. Innovative teaching methods should be used to ensure the attention of a student and make them more receptive such as group activities, interactive forum, role plays, and clinical bed-side demonstrations.

- Students will be posted in rotation in the physiotherapy OPDs and various wards of hospitals attached with the college. The students will observe the process of providing physiotherapy care for the patients. They may assist the clinical staff as well in executing non clinical aspects of service delivery. Each student shall maintain a case portfolio / diary to record the various activities performed during clinical posting. This diary should be presented before the final exam and the grade should be awarded by the college.

Course Outcomes (COs):

At the end of the course, the students will be able to

CO1	Take brief history of various clinical conditions affecting human beings
CO2	Communicate with patients and caregivers
CO3	Identify the chief complaints and major problems affecting patients

CO-PO-PSO Matrix

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3	PS O4	PS O5
CO1	2	2	2	3	3	2	2	1	2	2	1	2	3	3	3	3	1
CO2	2	2	2	3	3	2	2	1	2	2	1	2	3	3	3	3	1
CO3	2	2	2	3	3	2	2	1	2	2	1	2	3	3	3	3	1