

**BPT: Syllabus Revision in 2019-20.**

S.No	Course Code	Session 2018-19	Session 2019-20	Remark Syllabus Change/ new course
1	BPT101	<p><b>INTRODUCTION</b> Define anatomy and mention its subdivisions. Name regions, cavities and systems of the body. Define anatomical positions and anatomical terms.</p> <p><b>Unit 1</b> Upper limb and its joints</p> <p><b>UNIT 2</b> cardio-vascular system. respiratory system. digestive system</p> <p><b>NERVOUS SYSTEM:</b> 1. a. Define the subdivisions of the nervous system. Define central, peripheral and autonomic nervous systems and name their subdivisions:- b. Mention the nuclei of origin &amp; termination and indicate the site of attachment to brain /brain stem.</p> <p><b>LOWER EXTREMITY: Unit-III</b>  Lower limb and its joints</p> <p><b>THORAX : Unit –IV</b> Thorax and ribs, Temporomandibular joint, Atlantoccipital and Atlantoaxial Joint, Cutaneous distribution of trigeminal Nerve.</p> <p><b>Abdomen &amp; pelvis : Unit –V</b>  Abdominal wall, kidney with ureter and spleen, small Intestine, Large Intestine, Abdominal Aorta, Portal vein, Diaphragm. Sacral plexus, Sacroiliac joint, Intervetebral disc</p>	<p><b>General anatomy: Unit –I</b></p> <p><b>Cell:</b> Parts, Name of Cytoplasm organelles and inclusion with their function</p> <p><b>Epithelium:</b> Types with example and light microscopic structure.</p> <p><b>Connective Tissue:</b> Classification with emphasis on tendon</p> <p><b>Cartilage:</b> Types with example</p> <p><b>Bone:</b> Types with example, type of ossification (Stage of ossification not required) blood supply, fracture repair.</p> <p><b>Joints:</b> Classification with example, emphasis on synovial joint.</p> <p><b>Muscles:</b> Types &amp; Structure &amp; Functions</p> <p><b>Nervous Tissue:</b> Structure of a neuron, synapse reflex arc, degeneration and regeneration of the nerve.</p> <p style="text-align: center;"><b>REGIONAL ANATOMY</b></p> <p><b>UPPER EXTREMITY: Unit-II</b> <b>Theory</b>  Axilla, brachial plexus, shoulder joints, sternoclavicular joints, axillary lymph nodes, elbow joints, superior radioulnar joints, nerves of arm and fore arm, Ulnar nerve in hand, cutaneous distribution according to dermatomes, clinical anatomy, surface anatomy.</p> <p><b>LOWER EXTREMITY: Unit-III</b> <b>Theory</b>  Lumbar plexus, inguinal group of lymph nodes, hip joint, femoral triangle and femoral sheath, knee joint, venous drainage of inferior extremity, sciatic nerve and its distribution, obturator nerve, arches of foot, midtarsal joint. Cutaneous distribution according to myotome, clinical anatomy,</p>	Syllabus revision

			<p>surface markings.</p> <p><b>Abdomen and pelvis Theory</b></p> <p>Abdominal wall, Inguinal canal, stomach, Liver, pancreas, kidney with ureter and spleen, small Intestine, Large Intestine, Abdominal Aorta, Portal vein, Diaphragm. Sacral plexus, Sacroiliac joint, Intervetebral disc.</p> <p><b>THORAX : Unit –IV Theory</b></p> <p>Thoracic cage and Mediastinum, Heart with its internal and external features Bloods vessels, typical spinal Nerve, Typical Intercostals space, Mechanism of Respiration, Surface marking of Heart and Lungs.</p> <p>Temporomandibular joint, Atlantoccipital and Atlantoaxial Joint, Cutaneous distribution of trigeminal Nerve.</p> <p><b>NERVOUS SYSTEM Theory</b></p> <p>General Introduction and classification, Autonomic Nervous system mentioned) Fore brain – Cerebral hemisphere, functional areas and blood supply.</p>	
2	BPT 102	<p><b>PHYSIOLOGY</b></p> <p><b>UNIT:-I.Cell Physiology</b> Cell structures, functions and homeostasis. Cell membrane permeability and transport mechanisms.Bio electric potentials.</p> <p><b>UNIT-II <u>Muscle &amp; Nerve</u></b> -General introduction types of responses by living organism, essentials of a system to produce movements. Structure of neuron neuromuscular junction and synapse. -Electrophysiology of nerve and muscle. Generation conduction and transmission of nerve impulse. -Classification of nerve fibers. -Properties of nerve fibers, strength</p>	<p><b>PHYSIOLOGY GENERAL PHYSIOLOGY: Unit-I</b></p> <ol style="list-style-type: none"> <li>1. Introduction and scope of Physiology.</li> <li>2. Cell and tissue – its structure, principal constituents, properties and function including cell division.</li> <li>3. Body fluid. Blood: composition and general function of plasma. Blood cells – structure and function – Red blood cell, white blood cell – including number and approximate length of life – position structure and function of cell of reticulo-endothelial system. Blood clotting including bleeding time and clotting time, factors accelerating or slowing the process. Blood groups and their significance, Rh- factor, Hemoglobin and E.S.R. Formation of blood, tissue fluid and</li> </ol>	Syllabus revision

	<p>duration curve, accommodation.          -Structure and properties of different types of muscle.</p> <p><b>UNIT-III</b>  <b>Blood:</b>          -Composition and functions of blood plasma proteins, functions. Red blood cell-site of production, function          -Erythropoiesis and regulation, physiological and pathological variations.</p> <p><b>UNIT-IV</b>  <b>Respiratory system.</b>          -Introduction functional anatomy, functions respiratory and non respiratory.          -Mechanics of respiration inspiration, expiration, intra alveolar and intra pleural pressures, pneumo thorax. Pulmonary ventilation, airways resistance, compliance, work of breathing,          -Lung volumes and capacities. Gas law, partial pressures. Gas tension, Alveolar ventilation, composition of inspired alveolar and expired gases.</p> <ul style="list-style-type: none"> <li>• Haemodynamics</li> <li>• Blood pressure, measurement, regulation short term, intermediate and long term. Regulatory mechanisms. Venous circulation flow, pressure and factors affecting venous circulation, central venous mechanism, venous circulation-flow, pressure, factor affecting, central venous pressure. Microcirculation. Coronary circulation and patho physiological considerations. regional circulation..</li> </ul> <p><b>UNIT-V</b>  <b>Gastro intestinal system.</b>          -Introduction, functional anatomy, mastication swallowing. Physiology of gastro-intestinal secretions in general, Functions and regulation of gastric, Pancreatic, intestinal and bile secretions. Movement of alimentary canal, gastric emptying and intestinal movements          function tests. Body fluids- distribution, volume and regulation.          Path physiology of kidney-Renal</p>	<p>lymph.</p> <p><b>CardioVascular System and Respiratory System Physiology:Unit-II</b>  <b>1. Cardiovascular System.</b>          Structure and properties of Heart Muscles and nerve supply of Heart.          Structure and function of arteries, capillaries and veins.          Cardiac cycle and Heart sound.          Cardiac output measurements, factors affecting Heart Rate and its regulation,          Cardiac – vascular reflexes.          Bloods pressure, its regulation, physiological variation, peripheral resistance, Factors controlling blood pressure, Hemorrhage.          ECG study. Stress and stress test.</p> <p><b>2 Respiratory System.</b>          Mechanism of Respiration, change in diameters of thorax – intra-pleural and intra-pulmonary pressure.          Quantities of lung volume, tidal and residual volume, vital capacity.          Gaseous inter-changes in lung and tissues.          Control of respiration – Nervous and chemical significance of change in rate and depth, transportation of oxygen and carbon-dioxide.          Respiratory states – anoxia, asphyxia, cyanosis, acclimatization.</p> <p><b>Physiology of Digestive Tract and Reproductive system: Unit -III</b>  <b>1. Digestive System</b>          General arrangements of alimentary canal, liver pancreas – position, structure and functions.          Nutrition and diet – carbohydrates, protein, fat, salt, water, vitamins and minerals digestion, Absorption and Metabolism.</p> <p><b>2. System.</b>          Sex determination and development of puberty, male sex hormones, spermatogenesis, female sex hormones, menstrual cycle. Ovulation, pregnancy, Function of placenta, location.</p> <p><b>3. Excretory System.</b>          Gross and minute structure of kidney, renal circulation, Mechanism of formation of urine, Glomerular rate and tubular function, renal function and renal test. Physiology of micturition.</p> <p><b>Physiology of Thyroid and Skin: Unit-IV</b></p>	
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		<p>failure -, Artificial Kidney Diuretics. pregnancy and and parturition, changes in reproductive organs and different systems of the body. Physiology of lactation, mamogenesis, galactopoiesis, secretion and ejection of milk, lactation Ammenorthoea.Foetal and placental circulation.</p> <p><b>Skin</b> Structure, blood circulation, functions, Temperature regulation-physical</p>	<ol style="list-style-type: none"> <li>1. Endocrine System. Structure and function of pituitary (anterior &amp; posterior). Thyroid, Parathyroid, adrenal cortex, adrenal medulla, Thymus and pancreas. Blood sugar regulation.</li> <li>2. Skin – Structure and functions.</li> </ol> <p><b>NEUROMUSCULAR PHYSIOLOGY: Unit-V</b></p> <ol style="list-style-type: none"> <li>1. Cell membrane – ionic and potential gradient and transport.</li> <li>2. Muscle – Types of muscular tissue – Gross and microscopic structure – function, Basis of Muscle contraction – change in muscle contraction, Electrical – Biphasic and monophasic action potentials, chemical, Thermal and physical change, Isometric and Isotonic contraction.</li> </ol> <p>Motor units and its properties – clonus, tetanus, all or none law, Fatigue. Nerve – Gross and microscopic structure of nervous tissue, one neuron – Generation of action potential – Nerve impulse – condition. Neuromuscular junction. Degeneration – Regeneration of peripheral nerves Wallerian degeneration, electro tonus and pflafgers law.</p>	
3	BPT103(A)	<p><b>BIOCHEMISTRY</b> <b>Unit I:</b>Structure &amp; function of Cell &amp; Sub-cellular organelles Biochemical characteristics of living matter, Physiochemical Phenomena &amp; their significance(Osmosis Diffusion, Donnan Membrane equilibrium), Structure organization of plasma membrane &amp; transport systems.</p> <p><b>UNIT II:</b>Carbohydrates, Lipids &amp; Fatty acids, Nucleic acids, Amino acids &amp; Proteins, Plasma proteins.</p> <p>-Enzymes-Classification &amp; Mechanism of action, factors affecting enzyme activity, Enzyme kinetic, Enzyme inhibition, Coenzymes, Allosteric enzymes, Diagnostic significance of enzymes &amp; isoenzymes.</p> <p>Carbohydrates, Lipids, Proteins &amp; Nucleic acids.</p> <p><b>UNIT III:</b>Introduction of intermediary</p>	<p><b>BIOCHEMISTRY</b> <b>BIO – PHYSICS and Cell Chemistry</b> <b>Unit-I</b> Concepts of PH and buffer, Acid – base equilibrium, osmotic pressure and its physiological applications. Morphology, structure and function of cell, cell membrane, Nucleus, Chromatin, Mitochondria reticulum, Ribosome.</p> <p><b>CARBOHYDRATES, LIPIDS, PROTEINS &amp; METABOLISM: Unit-II</b> Definition, Function, Source, classification, &amp; metabolism.</p> <p><b>VITAMINS :Unit-III</b> Classification, Fat soluble vitamins – A, D, E, K, Water soluble vitamins –B Complex and Vitamin C. Daily requirement, <b>physiological functions</b> and diseases of vitamin deficiency</p> <p><b>WATER AND ELECTROLYTES &amp; MINERALS Metabolism Process:</b></p>	Syllabus revision

		<p>metabolism &amp; stage of catabolism.</p> <p>Carbohydrate metabolic pathways such as Glycolysis, Gluconeogenesis, TCA cycle, HMP shunt pathway, Glucuronic acid pathway &amp; Glycogen metabolism with their physiological importance, Interconversion of different sugars, Metabolic integration, Regulation of blood Glucose level, DM.</p> <p>UNIT IV:.</p> <p>Synthesis &amp; catabolism of purines &amp; pyrimidines, gout, Nucleosides, Nucleotides &amp; Biologically important nucleotides, Replication, Transcription, Translation &amp; inhibitors of protein synthesis.</p> <p>Liver, Pancreatic &amp; Gastric</p> <p>Connective tissue, Nerve tissue &amp; Muscle.</p> <p><b>UNIT V</b>-Proximate principles of food &amp; their physiological importance, Caloric requirements &amp; Computation of diet, Balance diet, BMR &amp; factors affecting BMR, SDA &amp; its significance, RQ, Nitrogen balance, Malnutrition (Kwashiorkor &amp; Marasmus), Obesity, diet in health &amp; disease, Role of dietary fibre, Metabolism in exercise.</p> <p>Vitamins-Dietary source, Daily requirements, Biochemical function &amp; deficiency diseases of water soluble &amp; fat soluble vitamins.</p> <p>a.</p>	<p><b>Unit-IV</b> Fluid compartment, Daily intake and output, Dehydration, sodium and potassium Metabolism.</p> <p><b>MINERAL METABOLISM &amp; HORMONES: Unit- V</b> Iron, Calcium, Phosphorous, Trace elements. General Characteristic and Mechanism of Hormone actions.</p>	
4	BPT 103(B)	<p><b>ENVIRONMENTAL SCIENCE</b> <b>Unit-I: Fundamentals of Environmental Sciences</b></p> <ul style="list-style-type: none"> <li>• Definition, Principles and Scope of Environmental Science. Structure and composition of atmosphere, hydrosphere, lithosphere and biosphere.</li> <li>• Meteorological parameters -</li> </ul>	<p><b>ENVIRONMENTAL SCIENCE</b> <b>Unit-I: Fundamentals of Environmental Sciences</b></p> <ul style="list-style-type: none"> <li>• Definition, Principles and Scope of Environmental Science. Structure and composition of atmosphere, hydrosphere, lithosphere and biosphere.</li> <li>• Laws of thermodynamics, heat transfer processes, mass and energy</li> </ul>	Syllabus revision

		<p>pressure, temperature, precipitation, humidity, mixing ratio, saturation mixing ratio, radiation and wind velocity, adiabatic lapse rate, environmental lapse rate. Wind roses. Interaction between Earth, Man and Environment.</p> <p><b>Unit-II: Environmental Chemistry</b></p> <ul style="list-style-type: none"> <li>• Fundamentals of Environmental Chemistry: Classification of elements, Stoichiometry, Gibbs' energy, chemical potential, chemical kinetics, chemical equilibria, solubility of gases in water, the carbonate system, unsaturated and saturated hydrocarbons, radioisotopes. Composition of air.</li> <li>• Particles, ions and radicals in the atmosphere. Chemical speciation. Chemical processes in the formation of inorganic and organic particulate matters, thermochemical and photochemical reactions in the atmosphere, Oxygen and Ozone chemistry.</li> </ul> <p><b>Unit-III: Environmental Biology</b></p> <ul style="list-style-type: none"> <li>• Ecology as an inter-disciplinary science. Origin of life and speciation. Human Ecology and Settlement.</li> <li>• Ecosystem Structure and functions: Structures - Biotic and Abiotic components. Functions - Energy flow in ecosystems, energy flow models, food chains and food webs. Biogeochemical cycles, Ecological succession. Species diversity, Concept of ecotone, edge effects, ecological habitats and niche.</li> </ul> <p><b>Unit-IV: Environmental Geosciences</b></p> <ul style="list-style-type: none"> <li>• Distribution of water in earth, hydrology and hydrogeology, major basins and groundwater provinces of India, Darcy's law and its validity, groundwater fluctuations, hydraulic conductivity, groundwater tracers, land subsidence, effects of</li> </ul>	<p><b>transfer across various interfaces, material balance.</b></p> <ul style="list-style-type: none"> <li>• Meteorological parameters - pressure, temperature, precipitation, humidity, mixing ratio, saturation mixing ratio, radiation and wind velocity, adiabatic lapse rate, environmental lapse rate. Wind roses. Interaction between Earth, Man and Environment.</li> </ul> <p><b>Unit-II: Environmental Chemistry</b></p> <ul style="list-style-type: none"> <li>• Fundamentals of Environmental Chemistry: Classification of elements, Stoichiometry, Gibbs' energy, chemical potential, chemical kinetics, chemical equilibria, solubility of gases in water, the carbonate system, unsaturated and saturated hydrocarbons, radioisotopes. Composition of air.</li> <li>• Particles, ions and radicals in the atmosphere. Chemical speciation. Chemical processes in the formation of inorganic and organic particulate matters, thermochemical and photochemical reactions in the atmosphere, Oxygen and Ozone chemistry.</li> </ul> <p><b>Unit-III: Environmental Biology</b></p> <ul style="list-style-type: none"> <li>• Ecology as an inter-disciplinary science. Origin of life and speciation. Human Ecology and Settlement.</li> <li>• Ecosystem Structure and functions: Structures - Biotic and Abiotic components. Functions - Energy flow in ecosystems, energy flow models, food chains and food webs. Biogeochemical cycles, Ecological succession. Species diversity, Concept of ecotone, edge effects, ecological habitats and niche.</li> </ul> <p><b>Unit-IV: Environmental Geosciences</b></p> <ul style="list-style-type: none"> <li>• Distribution of water in earth, hydrology and hydrogeology, major basins and groundwater provinces of India, Darcy's law and its validity, groundwater fluctuations, hydraulic conductivity, groundwater tracers, land subsidence, effects of excessive use of groundwater, groundwater quality. Pollution of</li> </ul>	
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		<p>excessive use of groundwater, groundwater quality. Pollution of groundwater resources, Ghyben-Herzberg relation between fresh-saline water.</p> <ul style="list-style-type: none"> <li>• Natural resource exploration and exploitation and related environmental concerns. Historical perspective and conservation of non-renewable resources.</li> <li>• Natural Hazards: Catastrophic geological hazards - floods, landslides, earthquakes, volcanism, avalanche, tsunami and cloud bursts. Prediction of hazards and mitigation of their impacts.</li> </ul>	<p>groundwater resources, Ghyben-Herzberg relation between fresh-saline water.</p> <ul style="list-style-type: none"> <li>• Natural resource exploration and exploitation and related environmental concerns. Historical perspective and conservation of non-renewable resources.</li> <li>• Natural Hazards: Catastrophic geological hazards - floods, landslides, earthquakes, volcanism, avalanche, tsunami and cloud bursts. Prediction of hazards and mitigation of their impacts.</li> </ul> <p><b>Unit-V: Energy and Environment</b></p> <ul style="list-style-type: none"> <li>• Sun as source of energy; solar radiation and its spectral characteristics. Fossil fuels: classification, composition, physico-chemical characteristics and energy content of coal, petroleum and natural gas. Shale oil, Coal bed Methane, Gas hydrates. Gross-calorific value and net-calorific value.</li> <li>• Principles of generation of hydro-power, tidal energy, ocean thermal energy conversion, wind power, geothermal energy, solar energy (solar collectors, photo-voltaic modules, solar ponds).</li> <li>• Nuclear energy - fission and fusion, Nuclear fuels, Nuclear reactor – principles and types.</li> </ul> <p><b>Unit-V: Energy and Environment</b></p> <ul style="list-style-type: none"> <li>• Sun as source of energy; solar radiation and its spectral characteristics. Fossil fuels: classification, composition, physico-chemical characteristics and energy content of coal, petroleum and natural gas. Shale oil, Coal bed Methane, Gas hydrates. Gross-calorific value and net-calorific value.</li> <li>• Principles of generation of hydro-power, tidal energy, ocean thermal energy conversion, wind power, geothermal energy, solar energy (solar collectors, photo-voltaic modules, solar ponds).</li> <li>• Nuclear energy - fission and fusion, Nuclear fuels, Nuclear reactor – principles and types.</li> <li>• Bioenergy: methods to produce</li> </ul>	
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			energy from biomass	
5	BPT104	<p><b>SOCIOLOGY</b></p> <p><b>I.Introduction:</b> Definition of sociology, sociology as a science of society, uses of the study of sociology, application of knowledge of sociology in physiotherapy and occupational therapy.</p> <p><b>II.Sociology &amp; health:</b> Social factors affecting health status, social consciousness and perception of illness, social consciousness and meaning of illness, decision making in taking treatment. Institution of health of the people.</p> <p><b>III.Socialization:</b> Meaning of socialization, influences of social factor on personality socialization in hospitals, socialization in rehabilitation of patients.</p> <p><b>IVSocial Group:</b> Concept of social group, influence of formal and informal groups on health and sickness, the role of primary groups and secondary groups in the hospitals and rehabilitation setting.</p> <p><b>V.Family:</b> Influence of family on human personality, discussion of changes in the function of a family, influence of family on the individual's health family and nutrition, the effect of sickness on family, and psychosomatic disease.</p> <p><b>XI.Social problems of the disabled:</b>  Consequences of the following social problems in relation to sickness and disability: remedies to prevent these problems: a)Population explosion b)Poverty and unemployment c)Beggary</p>	<p><b>SOCIOLOGY</b></p> <p><b>A. Introduction :UNIT-I</b> Definition of sociology. Sociology as a science, uses of study of Sociology, application of knowledge of sociology in Occupation Therapy.</p> <p><b>B. Sociology and health :UNIT-II</b> Social factors affecting health status, health determinants, issues of right to health, social consciousness and perception of illness, social consciousness and meaning of illness, decision making in taking treatment. Institution of health their role in the improvement of health and the people.</p> <p><b>C. Socialization &amp; Social Groups: UNIT-III</b> Meaning of socialization, gender, relationship between gender and society, influence of social factors on personality, socialization in hospital and socialization in rehabilitation of patients. <b>Social groups</b> Concepts of social group &amp; influence of formal and informal groups on health and sickness, the role of primary groups and secondary group in the hospital and rehabilitation setting</p> <p><b>D. Family: UNIT-IV</b> Influence of family on human personality, discussion of changes in the function of a family, influence of family on the individual's family and psychosomatic disease, human values.</p> <p><b>E. Social problems of the disabled: UNIT-V</b> Consequences of the following social problems in relation to sickness and disability, remedies to prevent these problems: Population explosion Poverty and unemployment Beggary Juvenile delinquency Prostitution Alcoholism Problems of women in employment</p>	
6	BPT105	<p><b>GENERAL &amp; CLINICAL PSYCHOLOGY</b></p> <p><b>Section- I</b></p>	<p><b>GENERAL &amp; CLINICAL PSYCHOLOGY</b></p> <p><b>I. General Psychology – UNIT-I</b></p>	



	<p><b>GENERAL PSYCHOLOGY</b></p> <p><b>1. Definition of psychology:</b> Definition of psychology, in relation to following schools method and branches</p> <p>a. Schools: Structuralism, functionalism, behaviorism, psychoanalysis, Gestalt Psychology.</p> <p>b. Methods: Introspection, observation, inventory and experimental method.</p> <p>c. Branches: General, child, social, abnormal, industrial, clinical, counseling, educational.</p> <p><b>2. Heredity and Environment:</b> Twins relative importance of heredity an environment, their role in relation to physical characteristics, intelligence and personality, nature- nature controversy.</p> <p><b>3. Development and growth behavior:</b> Infancy, childhood, adolescence, adulthood, middle age, old age.</p> <p><b>4. Intelligence:</b> Definition, IQ, Mental age, list of various intelligence tests- WAIS, WISC, and Bhatia's performance test, raven's Progressive Metrics test.</p> <p><b>5. Motivation:</b> Definition, motive, drive, incentive and reinforcement, basic information about primary needs: hunger thirst, sleep elimination activity, air avoidance of pain, attitude to sex.</p> <p>Psychological needs: Information, security, self esteem, competence, love and hope.</p> <p><b>6. Emotions:</b> Definition: differentiate from feelings, psychological changes of gland, heredity and emotion, nature and control anger, fear and anxiety</p> <p><b>7. Personality:</b> Definitions: List of components: physical characteristics character, abilities temperament, interest and attitudes. Discuss briefly the role of heredity, nervous system, physical characteristics, abilities, family and culture of personality development.</p> <p>Basic concept of Freud: Unconscious, conscious, id ego and supergo, list and define the oral, anal and phallic stages of personality department list and</p>	<ol style="list-style-type: none"> <li>1) Definition of Psychology       <ol style="list-style-type: none"> <li>i. Science of mind consciousness and behavior</li> <li>ii. <b>Scope</b> and branches of Psychology</li> </ol> </li> <li>2) Methods of Introspection, observation and experimentation</li> <li>3) Heredity and Environment       <ol style="list-style-type: none"> <li>a. Relative importance of heredity and environment</li> <li>b. Physical characteristics intelligence and personality</li> <li>c. Nature vs. nurture controversy</li> </ol> </li> </ol> <p><b>Theories of Learning, Memory and Perception: UNIT-II</b></p> <ol style="list-style-type: none"> <li>4) Learning       <p>Types of Learning</p> <ol style="list-style-type: none"> <li>a. Trial and error</li> <li>b. Classical Learning</li> <li>c. Instrumental Learning</li> <li>d. Insight for Learning</li> </ol> </li> <li>5) <b>Memory</b> <ol style="list-style-type: none"> <li>a. <b>Step of memory</b></li> <li>b. <b>Measurement of memory</b></li> <li>c. <b>Causes of forgetting</b></li> <li>d. <b>Concept of STM and LTM</b></li> </ol> </li> <li>6) <b>Perceptual process</b> <ol style="list-style-type: none"> <li>a. <b>Nature of perceptual process</b></li> <li>b. <b>Structural and function factors in perception</b></li> <li>c. Illusion and Hallucination</li> </ol> </li> </ol> <p><b>Psychology of Emotion, Motivation and Intelligence: UNIT-III</b></p> <ol style="list-style-type: none"> <li>7) Emotion       <ol style="list-style-type: none"> <li>a. Emotion and feeling</li> <li>b. Physiological changes</li> <li>c. Theories of emotion (James – Lange and Eonnon – Bird)</li> </ol> </li> <li>8) Motivation       <ol style="list-style-type: none"> <li>a. Motive need and Drive</li> <li>b. Types of motive physiological, psychological and social</li> </ol> </li> <li>9) Intelligence       <p>Definitions theory and assessment</p> </li> <li>10) Personality: Definition, Types and measurements</li> </ol> <p><b>Applied Psychology: UNIT-IV</b></p>	
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	<p>define the stages as proposed by Erickson, 4 concept of learning as proposed by Dollard and Miller, drive cue, response and reinforcement.</p> <p>Personality assessment: Interview, standardized, non-standardized, exhaustive, and stress interviews, list and define inventories BAI, CPI and MMPI, projective test. Rorschach, TAT and sentence completion test.</p> <p><b>8. Learning:</b>  Definition: List the laws of learning as proposed by Thorndike,  type of learning: Briefly describe, classical conditions, operant conditioning, insight observation and Trial and error type list the effective ways to learn: Massed Vs. spaced, whole vs. part, Recitation Vs reading serial Vs. International learning, role of language.</p> <p>9. <b>Thinking:</b> Definition, concepts creativity, steps in creative thinking, list the traits of creative people, delusions.</p> <p>10. <b>Frustration:</b> Definition, sources, solution, conflict, Approach, Avoidance avoidance and approach-Avoidance solutions.  a. .</p> <p><b><u>Section- II</u></b>  <b><u>HEALTH PSCYCHOLOGY</u></b></p> <p><b>1. Psychological reactions of a patient:</b> Psychological reactions of a patient during admission and treatment anxiety, shock denial, suspicion, questioning, loneliness, regression, shame, guilt, rejection, fear withdrawal, depression, egocentricity, concern about small matters, narrowed interests, emotional over reactions, perpetual changes, confusion disorientation, hallucination, delusion, illusions anger, hostility, lose of hope.</p>	<p><b>Special therapies:</b></p> <ol style="list-style-type: none"> <li>1. Psychotherapy- psychoanalysis narcohypnosis psychodrama</li> <li>2. Group therapy.</li> </ol> <p>shock therapy</p>	
		<p>A Industrial Psychology</p>	

2. **Reaction to loss:** Reactions to loss, death and bereavement shock and disbelief, development of awareness, restitution, resolution, stages of acceptance as proposed by kulbir – Ross.

3. **Stress:** Physiological and psychological relation to health and sickness: psychosomatic, professional stress burnout.

4. **Communications:**  
Type verbal, non-verbal, element in communication, barriers to communication, effective communication, specific communication techniques.

Counseling: Definition, Aim differentiates from guidance, principles in counseling and personality qualities of counselors.

### SECTION-III

#### **CLINICAL PSYCHOLOGY**

**Introduction:** Definition: sign & synapsing types of mental disorders psychosomatic complication

#### **Disorders:**

1. Psychosis schizophrenia delusional disorders acute and transient psychotic Disorders
2. Affective disorders: depression disorders mania bipolar affective disorders.
3. Anxiety disorders agoraphobia panic disorder generalized anxiety disorders,
4. Dissociative disorders somatoform disorders OCD,
5. Organic conditions - dementia delirium tranmatic

Human Engineering Importance of human Engineering Development of human Engineering Problems in human Engineering

1. Decision Making  
Process and steps indecision making  
Individual decision –making  
Decision making in organization
2. Stress and mental health  
Cause and reaction to stress  
Stress management
3. Work Culture, moral and rewards of work discipline
4. Guidance and counseling  
Meaning, types and objectives of counselor
6. Child Psychology  
Concepts of child Psychology
- 1 Meaning nature and subject

#### 1 Decision Making

Process and steps indecision making  
Individual decision –making  
Decision making in organization

#### 3. Stress and mental health

Cause and reaction to stress  
Stress management

#### 4. Work Culture, moral and rewards of work discipline

Guidance and counseling  
Meaning, types and objectives of counselor

#### 6. Child Psychology

Concepts of child Psychology  
a) Meaning nature and subject matter of child Psychology  
b) Practical importance of studying child Psychology for rehabilitation professionals

#### **Rehabilitation Psychology: Unit-V**

Interpersonal Relationships, familial & Social Relationships, acceptance about the

			disability – its outcome in relation to different diagnostic categories psychological aspects of multiple handicapped, contribution of psychology in Total Rehab.	
7	BPT106	<p><b>BASIC PRINCIPLES IN PHYSIOTHERAPY</b></p> <p><b><u>SECTION – I</u></b></p> <p><b>1. Physical Principles:</b></p> <p>Structure and properties of matter- solids, liquids and gases, adhesion, surface tension viscosity, density and elasticity. Structure of atom, molecules, elements and compounds. Electron theory, static and current electricity. Conductors, Insulators, Potential difference, Resistance &amp; Intensity. Ohm’s Law- Its application to AC &amp; DC currents. Rectifying devices – Thermionic Valves, Semiconductors, Transistors, Amplifiers, Transducers Oscillator circuits.</p> <p>a) Capacitance, condensers in b) DCs.</p> <p>Display devices &amp; indicators-</p> <p><b>2. Effects of Current Electricity</b></p> <ol style="list-style-type: none"> <li>1. Chemical effects – Ions and electrolytes, Ionization, Production of a E.M.F. by chemical actions.</li> <li>2. Magnetic effects, Molecular theory of Magnetism, Magnetic fields, Electromagnetic induction.</li> <li>3. Millimeter and Voltmeter, Transformers and Choke Coil, thermal effect-joule law, heat production.</li> <li>4. Physical principles of sound and its properties.</li> <li>5. Physical principles of light and its properties.</li> <li>6. Electromagnetic spectrum – biophysical application.</li> </ol>	<p><b>BASIC PRINCIPLES IN PHYSIOTHERAPY</b></p> <p><b>UNIT I</b></p> <p><b>1. Physical Principles:</b></p> <ul style="list-style-type: none"> <li>• Structure and properties of matter- solids, liquids and gases, adhesion, surface tension viscosity, density and elasticity.</li> <li>• Structure of atom, molecules, elements and compounds.</li> <li>• Electron theory, static and current electricity.</li> <li>• Conductors, Insulators, Potential difference, Resistance &amp; Intensity.</li> </ul> <p>Ohm’s Law- Its application to AC &amp; DC currents. Rectifying devices – Thermionic Valves, Semiconductors, Transistors, Amplifiers, Transducers Oscillator circuits. -Capacitance, condensers in DC and AC Circuits. -Display devices &amp; indicators- analogue &amp; digital.</p> <p><b>UNIT II</b></p> <p><b>2. Effects of Current Electricity</b></p> <ol style="list-style-type: none"> <li>1. Chemical effects – Ions and electrolytes, Ionization, Production of a E.M.F. by chemical actions.</li> <li>2. Magnetic effects, Molecular theory of Magnetism, Magnetic fields, Electromagnetic induction.</li> <li>3. Millimeter and Voltmeter, Transformers and Choke Coil, thermal effect-joule law, heat production.</li> <li>4. Physical principles of sound and its properties.</li> <li>5. Physical principles of light and its properties.</li> <li>6. Electromagnetic spectrum – biophysical</li> </ol>	<b>Syllabus revision</b>

	<p style="text-align: center;"><b><u>SECTION – II</u></b></p> <ol style="list-style-type: none"> <li>1. Introduction to exercise therapy, principles, technique and general areas of its application, Assessment &amp; its importance.</li> <li>2. BIOMECHANICS AND EXERCISE THERAPY       <ol style="list-style-type: none"> <li>a) Force: Composition of force, parallelogram of forces.</li> <li>b)Equilibrium: Stable, unstable, neutral.</li> <li>c)Gravity: Center of gravity, Line of gravity.</li> <li>d)Levers: 1<sup>st</sup> order, 2<sup>nd</sup> order, 3<sup>rd</sup> order, their examples in the human body and their practical applications in physiotherapy, forces applied to the body levers.</li> </ol> </li> <li>3. Introduction to movements including analysis of joint motion, muscle work and Neuro muscular co-ordination.</li> <li>4.Principal classification techniques physiological &amp;therapeutic effects indications &amp; contraindications of therapeutic exercises.</li> <li>5. Classification of movements: Describe the types, technique of application, indication, contraindications, effects and uses of the following.       <ol style="list-style-type: none"> <li>a)Active movement</li> <li>b) Passive movement.</li> <li>c)Active assisted movement</li> <li>d) Resisted movement</li> </ol> </li> </ol>	<p>application.</p> <p><b>3. Electrical supply:</b></p> <ol style="list-style-type: none"> <li>a)Brief outline of main supply of electric current.</li> <li>b)Dangers- short circuits, electric shocks.</li> <li>c)Precautions – safety devices, earthing, fuses etc.</li> </ol> <p>First aid &amp; initial management of electric shocks.</p> <p><b>UNIT III</b></p> <p>Introduction to exercise therapy, principles, technique and general areas of its application, Assessment &amp; its importance.</p> <p>BIOMECHANICS AND EXERCISE THERAPY</p> <ol style="list-style-type: none"> <li>a. Force: Composition of force, parallelogram of forces.</li> <li>b. Equilibrium: Stable, unstable, neutral.</li> <li>c. Gravity: Center of gravity, Line of gravity.</li> <li>d. Levers: 1<sup>st</sup> order, 2<sup>nd</sup> order, 3<sup>rd</sup> order, their examples in the human body and their practical applications in physiotherapy, forces applied to the body levers.</li> <li>e. Pulleys: Fixes, Movable.</li> <li>f. Springs: Series; Parallel</li> <li>g. Tension</li> <li>h. Elasticity: Hook’s law.</li> <li>i. Axis: Sagittal, Frontal, Transverse, vertical.</li> <li>j. Planes: Sagittal, frontal, Horizontal.</li> <li>k. Definition of speed, Velocity, work, Energy, power, Acceleration, Momentum, Friction and Inertia.</li> </ol> <p><b>UNIT IV</b></p> <p>Introduction to movements including analysis of joint motion, muscle work and Neuro muscular co- ordination.</p> <p>Principal classification techniques physiological &amp;therapeutic effects indications &amp; contraindications of therapeutic exercises.</p> <p><b>UNIT V</b></p> <p>Classification of movements: Describe the types, technique of application, indication,</p>	
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			<p>contraindications, effects and uses of the following.</p> <ul style="list-style-type: none"> <li>a) Active movement</li> <li>b) Passive movement.</li> <li>c) Active assisted movement</li> <li>d) Resisted movement</li> </ul>	
8	BPT107	<p><b>COMMUNICATION SKILLS &amp; PERSONALITY DEVELOPMENT FOR PROFESSIONALS</b></p> <p><b>Unit I Introduction</b></p> <p>Nature, scope and importance of effective communication; Challenges in today's workplace and need for communicating effectively; Process of Communication, Barriers to Communication and ways to overcome them; Channels of Communication.</p> <p><b>Unit II Written Communication</b></p> <p>Advantage of Written Communication; Basics of Writing Reports; Preparing Powerful Resumes; Memos; Business Emails.</p> <p><b>Unit III Effective Business Writing: letters</b></p> <p>Nature and Forms of Business letters; Process of Writing Business letters; Writing Routine; Good News, Bad News letters, Goodwill letters and Persuasive letters.</p> <p><b>Unit IV Speech Dynamics</b></p> <p>Basics of Speaking in Public; Participating in Meetings and Group Discussions; How to face Interviews; Presenting yourself before; at and after interviews; FAQ during interviews.</p> <p><b>Unit V Designing and Delivering Presentation</b></p> <p>Concept and types of presentation; Subject selection and organizing information; Organizing a presentation.</p>	<p><b>ENGLISH COMMUNICATION</b></p> <p><b>Unit 1: Introduction to communication in organization &amp; written communication</b></p> <p>Nature, scope and importance, challenges in today's workplace and need for communicating effectively, process of communication, listening skills, advantages of written communication, basics of writing reports, preparing powerful resumes, memos, business emails.</p> <p><b>Defining communication and communication in organizational setting, oral communication, written and non verbal communication. Listening skills.</b></p> <p><b>Unit 2: Effective business writing letters:</b></p> <p>Nature and forms of business letters: process of writing business letters: writing routines, good news bad news letters, goodwill letters and persuasive letters</p> <p><b>Unit 3: Speech Dynamics and Leadership skills:</b></p> <p>Basics of speaking in public: participating in meetings and group discussions: how to face interviews: presenting yourself before: at and after interviews: FAQ during interviews.</p> <p><b>Concept of leadership and qualities and styles of effective leadership.</b></p> <p><b>Unit 4: Designing and delivering presentation with time management:</b></p> <p>Concept and types of presentation: subject selection and organizing information: organizing a presentation.</p> <p>Concept and importance of time management: Techniques of time management : Barriers to effective time management.</p> <p><b>Unit 5: Team Management skills:</b></p> <p><b>Concept, understanding group formation,</b></p>	<p><b>Syllabus revision</b></p>

			team effectiveness assessment, team management techniques.	
9	BPT201	<p><b>PATHOLOGY &amp; MICRO-BIOLOGY</b></p> <p><b>Introduction to Pathology</b></p> <p><b>1.General Pathology:</b></p> <ol style="list-style-type: none"> <li>Cell injury- causes, mechanisms with special reference to</li> <li>Physical, Chemical and toxic injury and ionizing radiation.</li> <li>Reversible cell injury(degeneration s)-types morphology-cellular swelling fatty change.</li> <li>Intracellular</li> </ol> <p><b>UNIT 2.</b></p> <p><b>Inflammation &amp; Repair-</b></p> <ol style="list-style-type: none"> <li>Acute inflammations features, causes, vascular &amp; cellular events, Morphologic variations.</li> <li>Inflammatory cell &amp; mediators,</li> <li>Chronic inflammation:- causes, types, non-specific &amp; granulomatous-with examples.</li> </ol> <p><b>UNIT 3</b></p> <hr/> <p><b>Circulatory disturbances-</b></p> <ol style="list-style-type: none"> <li>Edema-pathogenesis-Types transudate/ exudates,</li> <li>Chronic venous congestion- lung, liver and spleen</li> <li>Thrombosis-formations fate and effects</li> <li>Embolism- types clinical effects</li> <li>Infarction- types common sites</li> </ol>	<p><b>PATHOLOGY &amp; MICRO-BIOLOGY</b></p> <p><b>UNIT-I Introduction to Pathology and Cell Injury</b></p> <ol style="list-style-type: none"> <li>Aims and objectives of study of pathology.</li> <li>Brief outline of cell injury, degeneration, necrosis and gangrene.</li> </ol> <p><b>UNIT-II General Pathology of Inflammatory Process and Circulatory System disorders</b></p> <ol style="list-style-type: none"> <li>Inflammation: definition, vascular and cellular phenomenon difference between transudates and exudates. Granuloma.</li> <li>Circulatory disturbances: Hemorrhage, Embolism Thrombosis Infarction, Shock, Volkmann's ischemic contracture.</li> <li>Blood disorder: Anemia, Bleeding disorder.</li> </ol> <p><b>UNIT-III Pathology of Cardiovascular and Respiratory System</b></p> <ol style="list-style-type: none"> <li>CVS: Heart and blood vessels, Coronary heart disease.</li> <li>Respiratory System: Ch. Bronchitis, Asthma Bronchiectasis, Emphysema, COPD etc.</li> </ol> <p><b>UNIT-IV Pathology of Skeletal System and Nervous System</b></p> <ol style="list-style-type: none"> <li>Bones and Joint : Arthritis &amp; Spondyloarthropathy</li> <li>PNS and Muscles: Neuropathies, Poliomyelitis &amp; Myopathies etc.</li> <li>CNS: Infection, Demyelinating disease, Degenerative disease etc.</li> </ol> <ol style="list-style-type: none"> <li>Sterilization and asepsis.</li> <li>Infection – Source of infection and entry and its Spread</li> </ol> <p><b>UNIT-III Immunity and Allergic Reactions</b></p> <ol style="list-style-type: none"> <li>Immunity – Natural and Acquired</li> <li>Allergy and hypersensitivity</li> </ol> <p><b>Unit-V General Pathology of Neoplasm and Bodily Disorders</b></p> <ol style="list-style-type: none"> <li>Neoplasia</li> </ol>	Syllabus revision

		<p>f Shocks Pathogenesis, Types, morphologic changes.</p> <p><b>UNIT 4</b> <b>Growth Disturbance</b></p> <p>a. Atrophy- malformation, agenesis dysplasia</p> <p>b. Neoplasia- classification, histogenesis, biologic behavior, differences between &amp; malignant tumors</p> <p>c. Malignant neoplasm's- grades stages local invasion &amp; distal spread-</p> <p>d. Carcinogenesis- environmental carcinogens-</p> <p>f Antony van Leeuwenhoek,</p> <p>listers Robert Koch Fleming Jenner</p>	<p>12. Growth and its disorder like hypertrophy hyperplasia &amp; atrophy.</p> <p>13. Autoimmune diseases.</p> <p>14. Healing and repair.</p> <p>15. Diabetes mellitus and gout.</p> <p><b>MICROBIOLOGY</b> <b>UNIT-I Introduction to Microbiology</b></p> <p>5. Introduction and History of Microbiology</p> <p>6. General lectures on Microorganisms (brief)</p> <p><b>UNIT-II Process of sterilization and Infection control</b></p> <p><b>UNIT-III Microbiology of Pathogens and Pathogenic Processes</b></p> <p>7. Outline of common pathogenic bacteria and produced by them. a) Respiratory tract infection</p>	
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			<ul style="list-style-type: none"> <li>b) Meningitis.</li> <li>c) Enteric infections.</li> <li>d) Anaerobic infections</li> <li>e) Urinary tract infections</li> <li>f) Leprosy, tuberculosis and miscellaneous infections.</li> <li>g) Wound infection</li> <li>h) Sexually transmitted diseases.</li> <li>i) Hospital acquired infections.</li> </ul> <p><b>UNIT-IV Microbiology of Viruses and Its Infections</b></p> <ul style="list-style-type: none"> <li>8. Virology – virus infection, with special mention of Hepatitis.</li> <li>9. Poliomyelitis &amp; rabies.</li> </ul>	
10	BPT202	<p><b>PHARMACOLOGY</b></p> <p><b>UNIT 1</b></p> <p><b>1. GENERAL PHARMACOLOGY:</b></p> <ol style="list-style-type: none"> <li>1. Definition division of pharmacology dosage forms drug nomenclature.</li> <li>2. Routes of administration adv &amp; disadv. of commonly used routes of administration</li> <li>3. antagonism etc.</li> </ol> <p><b>UNIT 2</b></p> <ol style="list-style-type: none"> <li>1. Sympathomimetic drug therapeutic uses of adrenaline etc.</li> <li>2. Beta adrenergic blockers alpha adrenergic blockers.</li> <li>3. Parasympatomimetic drug their therapeutic uses and uses and adverse effects treatment of myasthenia gravis.</li> <li>4. Atropine, Atropine substitute T/t of organ phosphorus poisoning.</li> </ol> <p><b>UNIT 3</b></p> <p><b>CHEMOTHERAPY:</b></p> <ol style="list-style-type: none"> <li>1. Penicillin's &amp; Sulphonamides.</li> </ol>	<p><b>PHARMACOLOGY</b></p> <p><b>Introduction to Pharmacology UNIT-I</b></p> <ol style="list-style-type: none"> <li>1. <b>General pharmacology:</b> Introduction and definition, Nature and source of drugs, Dosage form of drugs' Routes of drug administration, Pharmacokinetics (Absorption, Bioavailability, Distribution, Metabolism Excretion, First order Zero order Kinetics), Pharmacodynamics (site and mechanism of drug and factors influencing dosage and drug response).</li> </ol> <p><b>Pharmacology of Nervous System: UNIT-II</b></p> <ol style="list-style-type: none"> <li>2. <b>Drugs Affecting ANS:-</b> General Introduction, Drug affecting parasympathetic nervous system, Drugs affecting sympathetic nervous systems,</li> <li>3. <b>Drugs affecting Peripheral (Somatic) nervous System:-</b> Skeletal Muscle Relaxants: Local Anesthetics.</li> <li>4. <b>Drugs Affecting CNS:</b> - General anesthetics Anxiolytics and hypnotics, Alcohol, Opioid analgesics Drugs dependence and abuse Antiepileptic drugs, Drug therapy for Neurodegenerative disorders.</li> </ol> <p><b>Pharmacology of Cardiovascular,</b></p>	Syllabus revision

		<p>2. Broad spectrum Antibiotics.</p> <p>3. Aminoglycosiders &amp;T/t of urinary tract infection.</p> <p>4. Macrolides &amp;Misc. AMA</p> <p>5. Quinolones</p> <p>6. Anti TB Drugs</p> <p>6a. HIV, AIDS &amp; Treatment of AIDS</p> <p>7. Anti leprosy drug T/t of anaerobic infections.</p> <p>8. Anti cancer drugs.</p> <p>9. T/t of amoebiasis, helminthic infection.</p> <p>10. Antifungal druges.</p> <p>11. Anti septics &amp; disinfectants.</p> <p><b>UNIT 4:</b></p> <p>1. Anti hypertensive &amp; T/t of hypertension etc.</p> <p>2. Antianginal druge &amp; T/t of MI</p> <p>3. Drugs used in shocks/t of anaphylactic shock Hemorrhagic shocks etc.</p> <p>4. Iron – deficiency anemia and other anemias.</p> <p><b>UNIT 5</b></p> <p>1. Drug acting on skin e.g. Lotions liniments ointments.</p> <p>2. Vitamins vit deficiency.</p> <p>3. Heavy metal antagonists &amp; general principles of T/t of poisoning.</p> <p>4. Immunostimulants and Immunosuppressant.</p> <p>5. Antitussives &amp; Bronchial asthma.</p> <p>6. Drugs banned in sports &amp; Athletes.</p> <p>Vaccines &amp; sera, Immunization schedule</p>	<p><b>Respiratory and Renal System: UNIT III</b></p> <p>5. <b>Renal and CVS :-</b> Diuretics : Renin – angiotension system and its inhibitors, Drug treatment of Hypertension, Angina pectoris Myocardial infarction Heart failure, and hypercholesterolemia.</p> <p>6. <b>Drugs Affecting Respiratory system:</b> Drug therapy of bronchial asthma and chronic obstructive pulmonary disease.</p> <p><b>Drugs of Inflammation and Endocrine Disorders: UNIT-IV</b></p> <p>7. <b>Anti – inflammatory drugs and related autacoids:</b> - Histamine Bradykinin, 5 – HT and their antagonists, Prostaglandins and leukotrienes, Nonsteroidal-Antiinflammatory drug(NSAIDs), Anti rheumatic drugs and drugs used in gout.</p> <p>8. <b>Endocrines:</b> Parathyroid hormone, Vitamin D, calcitonin and drugs affecting Calcium balance, Thyroid and antithyroid drugs, Adrenocortical and anabolic steroids, Insulin and Oral Hypoglycemic agents.</p> <p><b>Pharmacology of Cancer and General Ailments: UNIT-V</b></p> <p>9. <b>Chemotherapy:</b> Introduction, sulfonamides, Fluoroquinolones, penicillin, Cephalosporism, newer B – lactam antibiotic, aminoglycosides, Macrolides and Newer antibiotics, Teatracyclines, Chloramphenicol Chemotherapy of Tuberculosis and leprosy antiseptics – disinfectants.</p> <p>10. <b>Miscellaneous Topics :</b> Management of stroke, Toxicology and heavy metal poisoning, special aspects of paediatric and geriatric Pharmacology, Drug interaction with drugs commonly used by physiotherapists, Hematinics, vitamins and antioxidants</p>	
11	BPT 203	<p><b>UNIT 1</b></p> <p><b>BASIC CONCEPTS OF BIOMECHANICS:</b></p> <p>.Introduction to Bio-Mechanics and kinesiology, Basic Concept of Kinetics</p>	<p><b>BIOMECHANICS</b></p> <p><b>I. Essential concepts: UNIT-I</b></p> <p>i. Motion and forces, Axis and planes, Mechanical lever, Lever in Human body.</p> <p>ii. Force distribution – linear force,</p>	Syllabus revision

	<p>and Kinematics</p> <p>.Types of motion: Translatory, Rotatory, Angular Motion</p> <p>.Forces: forces systems, Parellel Force system, Concurrent force system and Linear Force System, Friction Force</p> <p><b>UNIT2</b></p> <p><b>MUSCLE STRUCTURE AND FUNCTION</b></p> <ul style="list-style-type: none"> <li>• Elements of muscle</li> <li>• of Muscle Contraction.</li> <li>• Mobility and stability functions of muscle.</li> <li>• Types of muscle contractions and muscle work.</li> <li>• Classification of muscles and their functions.</li> </ul> <p><b>UNIT 3</b></p> <p><b>I- BIOMECHANICS OF VERTEBRAL COLUMN (SPINE)</b></p> <ul style="list-style-type: none"> <li>• Structure &amp; Biomechanics of Intervertebral Disc</li> <li>• Muscles and Ligaments of Cervical,</li> </ul>	<p>resultant force &amp; Equilibrium, parallel force in one concurrent force.</p> <p>iii. Newton's laws – Gravity and its effects on human body</p> <p>iv. Moments</p> <p>v. Forces and moments in action</p> <p>vi. Concepts of static equilibrium and dynamic equilibrium</p> <p>vii. Composition and resolution of forces</p> <p>viii. Friction</p> <p><b>II. Joints, Muscles &amp; Nerve Structure &amp; Function &amp; Kinematical concepts: UNIT-II</b></p> <p>Basic principles – general properties &amp; function</p> <p>Types / classification</p> <p>Biomechanical properties</p> <p>General effects of diseases , injury and immobilization</p> <p><b>III. Kinetic aspects of limb movement: UNIT-III</b></p> <p>Biomechanics of Upper Extremity</p> <p>Scapulo – shoulder joint</p> <p>Elbow joint</p> <p>Wrist joint &amp; Hand</p> <p>Motion of hip &amp; pelvis</p> <p>Force of hip &amp; pelvis</p> <p>Motion of knee joint</p> <p>Force of knee joint</p> <p>Patellofemoral joint</p> <p>Ankle and foot Kinematics</p> <p>Motion of ankle</p> <p>Force of ankle joint</p> <p>Temporomandibular joint</p> <p><b>IV. Vertebral Column :UNIT-IV</b></p> <p>General structure and function of cervical, thoracic, lumber &amp; sacral vertebral.</p> <p>Movements of vertebral column.</p> <p>Thorax &amp; chart wall – structure, function.</p> <p>Effects of age, diseases, injury.</p> <p><b>V. Biomechanics of Posture &amp; Gait: UNIT-V</b></p> <p>Gait cycle</p> <p>Parameters of gait</p> <p>Mykinetics of human gait</p> <p>Gait deviations</p> <p>Crutch and cane exercises</p> <p>Anatomical aspects of posture</p> <p>Factors affecting posture</p>	
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		<p>Thoracic, Lumbar &amp; Sacral regions.</p> <p><b>UNIT 4</b></p> <p><b>POSTURE</b></p> <ul style="list-style-type: none"> <li>• Definition, factors responsible for posture, relationship of gravity on posture.</li> <li>• Postural imbalance – factors responsible for imbalance in Static and dynamic positions.</li> <li>• Introduction to ergonomics</li> </ul> <p><b>UNIT 5</b></p> <p><b>II- GAIT</b></p> <ul style="list-style-type: none"> <li>• Description of Normal gait, determinants of gait, spatio temporal features and analysis.</li> <li>• Gait deviations – Types, Causative factors and analysis.</li> </ul>	<p>Assessment of posture Types of posture Postural deviation</p>	
12	BPT204	<p><u>UNIT-1</u></p> <ol style="list-style-type: none"> <li>1. Review of biomechanical principles.</li> <li>2. Description of fundamental starting position and derived position including joint positions, muscle work, stability, effects and uses.</li> <li>3. PELVIC TILT Describe the following: <ol style="list-style-type: none"> <li>a. Normal pelvic tilt; alteration from normal, Anterior tilt (forward), posterior</li> </ol> </li> </ol>	<p><b>EXERCISE THERAPY</b></p> <p><b>Introduction to Exercise Therapy with Various Exercises and Starting positions: UNIT-I</b></p> <ol style="list-style-type: none"> <li>1. Basic physics in exercise therapy, Mechanics: force, Gravity, line of gravity in human body, Base equilibrium. Axes and Planes, mechanical principles of lever, order of lever, example in human body, pendulum, and spring.</li> <li>2. Starting positions – Fundamental starting positions – standing, sitting, kneeling, lying and hanging. All the</li> </ol>	Syllabus revision

		<p>tilt ( backward), Lateral tilt.</p> <p>b. Muscles responsible for alteration and pelvic rotation.</p> <p>c. Identification of normal pelvic tilt, pelvic rotation and altered tilt and their corrective measures.</p> <p><b>UNIT 2</b></p> <p>1. Manual Muscle Testing.</p> <p>a) Principles and application techniques of Manual muscle testing.</p> <p>b) Testing position, procedure and grading of muscles of the upper limb, lower limb and trunk etc.</p> <p>2. Goniometry and its types.</p> <p>a) Principle techniques and application of Goniometry.</p> <p>b) Testing position, procedure and measurement of R.O.M. of the joints of upper limbs, lower limbs and trunk.</p> <p>precaution, effects and uses of Suspension Therapy</p> <p><b>UNIT 3</b></p> <p>1. Introduction to special mobilization &amp; manipulation techniques effects indication &amp; contraindications.</p> <p>2. Conceptual framework, principle of proprioceptive neuromuscular facilitation (PNF) techniques including indication therapeutic effects and precautions.</p> <p><b>SECTION –IV</b> Posture balance gait:</p>	<p>derived positions of the above five fundamental starting positions.</p> <p>3. Classification of movements in details &amp; Exercises.</p> <p>4. Resisted exercises – Technique and types of resistance, SET system (Heavy Resisted exercises, Oxford method, De Lorme method, Macqueen method).</p> <p>5. . Massage : definition of massage, type of massage, general effects and used of massage, local effects of individual manipulation (physiological effects), contra – indications, techniques of application of all manipulations – stroking, effleurage, kneading and picking up, skin rolling (back) clapping, tapping, friction etc</p> <p><b>Physiotherapeutic Specialized Techniques and Assessment: UNIT-II</b></p> <p>1. Suspension Therapy: Principals of suspension types – of suspension Therapy, effects and uses of Suspension Therapy. Their application either to mobilize a joint to increase joints range of motion or to increase muscle power – explaining the full details of component used for Suspension Therapy.</p> <p>2. Relaxed passive movements, basic knowledge of classification of relaxed passive movements, technique, effects and uses of relaxed passive movement. Muscles strength MMT: Anatomy and Physiology of muscle tissue causes of muscle weakness paralysis, prevention of muscle weakness / paralysis Types of muscle work and contraction ranges of muscle work prevention of muscle atrophy. Muscle assessment M.R.C. grading Principal of muscle strengthening / re-education, early re-education of a paralyzed.</p> <p>3. Joint Mobilization and Goniometry; classification of joint movements causes of restriction of joint movement, prevention of joint range of motion etc. principles of mobilization of a point in increasing its range of motion Technique of mobilization of a stiff joint, Goniometry, peripheral joint mobilization, Concave convex rule.</p> <p><b>Physiology of respiration and Exercise in Water and walking techniques: UNIT-III</b></p> <p>1. Breathing exercises: physiology of</p>	
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		<ol style="list-style-type: none"> <li>1. Normal posture-overview of the mechanism of normal posture.</li> <li>2. Abnormal posture – assessment types etiotenesis management including therapeutic Exercise.</li> <li>3. Static and dynamic balance-assessment &amp; management including therapeutic exercise.</li> <li>4. Gait-overview of normal gait &amp; its components.</li> <li>5. Gait deviations-assessment, types etiogenesis management including therapeutic exercise.</li> <li>6. Types of walking aid indications effects &amp; various training techniques.</li> </ol> <p><b>UNIT 4</b> Hydrotherapy:</p> <ol style="list-style-type: none"> <li>1. Basic principles of fluid mechanic as they relate to hydrotherapy.</li> <li>2. Physiological &amp; therapeutic effects of hydrotherapy including joint mobility muscle strengthening &amp; wound care etc.</li> <li>3. Types of hydrotherapy equipment indications contraindications operations skill &amp; patien preparation.</li> </ol> <p><b>UNIT 5</b> Therapeutic Gymnasium</p> <ol style="list-style-type: none"> <li>i) Setup of a gymnasium &amp; its importance.</li> <li>ii) Various equipment in the gymnasium.</li> <li>iii) Operation skills, effects &amp; uses of each equipment.</li> </ol>	<p>respiration, types of breathing exercise, technique of various types of breathing exercises, its effects and uses &amp; postural drainage.</p> <ol style="list-style-type: none"> <li>2. Hydrotherapy : Introduction, various types of hydrotherapy units, construction and equipments used in hydrotherapy Principles, indication, contraindication, effects and uses of hydrotherapy, Precautions towards patient, towards therapist, equipment unit etc.</li> <li>3. 2 point, 3 point &amp; 4 point gait: Introduction, crutch measurement, crutch balance, various types of crutch gait details.</li> </ol> <p><b>Exercise Physiology with Stretching, Yoga and Project: UNIT-IV</b></p> <ol style="list-style-type: none"> <li>1. Individual, group and mass exercises maintenance exercises, plan of exercise – therapy table and schemes.</li> </ol> <p><b>Aerobic exercise</b> <b>Stretching</b></p> <ol style="list-style-type: none"> <li>1. Yoga Definition History Principles Concepts, General effects of yogic posture on the body. Students Project and Presentations: Vestibular Ball, Continuous Passive Motion Machine, Treadmill, Bicycle Ergometry, Dynamometer.</li> </ol> <p><b>Neuromuscular Techniques and Assessment: UNIT-V</b></p> <ol style="list-style-type: none"> <li>1. PNF: Definition, Principles, Basic procedure, Techniques of facilitation. PNF patterns for Upper Extremity PNF pattern for Lower Extremity.</li> <li>2. Balance: Definition, Causes of balance disorder, Conditions and Evaluation. Balance exercise: Exercise for weakness, Exercise for movement strategies, Static balance exercise, Dynamic balance exercise, Balance exercise for vestibular dysfunction</li> <li>3. Co – ordination Exercises: Definition of coordinated movements, in coordinated movements, Factors for coordinated movements technique of coordination exercises. Functional Re-Education</li> </ol>	
13	BPT205	<p><b>UNIT 1</b></p> <ol style="list-style-type: none"> <li>1. Review of neuro muscular physiology including</li> </ol>	<p><b>ELECTRO THERAPY</b> <b>Basics of Electrotherapy: UNIT-I</b></p> <ol style="list-style-type: none"> <li>1. Electrical fundamentals – Physical principles – Structure and properties of</li> </ol>	Syllabus revision

	<p>effects of the body.</p> <ol style="list-style-type: none"> <li>Physiological responses to heat gain or loss on various tissues of the body</li> <li>Therapeutic effects of heat cold and electrical currents.</li> <li>Physical principles of electro – magnetic radiation.</li> <li>Physic of sound including characteristics and propagation.</li> </ol> <p><b>UNIT 2</b> <b>BASIC PHYSICS FOR ACTINOTHERAPY (IRR &amp; UVR)</b></p> <ol style="list-style-type: none"> <li>Define heat and temperature (in brief)</li> <li>Physical effects of heat- (in brief)</li> <li>Transmission of heat (in brief)</li> <li>Sources of therapeutic heating and its physiological effects.</li> <li>Radiation energy and its properties.</li> </ol> <p><b>UNIT 3</b> <b>A. Low Frequency Currents:</b></p> <ol style="list-style-type: none"> <li>Introduction of direct, alternation &amp; modified currents.</li> <li>Production of direct current – Physiological and therapeutic effects of constant current, anodal and cathodal, Galvanism, Ionization and their application in various conditions.</li> </ol> <p><b>UNIT 4</b></p> <ol style="list-style-type: none"> <li>Medium frequency currents (interferential therapy)- conceptual framework of medium Frequency current therapy production biophysical effects types therapeutic effects, Techniques of application indication contraindication precautions operational skill and patient preparation.</li> </ol>	<p>matter” molecular atom, proton, neutron, electron, iron, etc. electrical energy: Nature of electricity Current – Electric potential generated by cell- Ohm’s Law, Joule’s Law.</p> <ol style="list-style-type: none"> <li>Magnetic Energy: Nature and property of a management electromagnetic induction, principle of working of choke coil- transformation – rectification of A.C.to D.C Metal Oxide Rectifier, Semi – conductor – Diode and Triode.</li> <li>Valves – Principle working – condenser – principle – Detail on charging and discharging, etc. transistors measurement of current intensity EMS and power – moving coil millimeter and voltmeter.</li> <li>Wiring of components in series and parallel distribution of Electrical energy – Earth Shock and electrical shock safety Device.</li> </ol> <p><b>Low Frequency Currents: UNIT-II</b></p> <ol style="list-style-type: none"> <li>Principals and uses of LOW FREQUENCY CURRENTS: Nature and principles of production of muscle stimulating current – types of low frequency currents used for treatment. High Voltage Galvanic current, Rectifying currents.</li> <li>Principles of electro diagnosis – strength duration curve, chronaxie and Rheobase – Their relationship, etc.</li> <li>TENS.</li> </ol> <p><b>Medium frequency Currents: UNIT-III</b></p> <ol style="list-style-type: none"> <li>Medium Frequency Current: Definition, Production (brief), Physiological effects and therapeutic effects of Interferential Current,</li> <li>Russian currents and Di dynamic Currents</li> </ol> <p><b>Action Therapy Techniques: UNIT-III</b></p> <ol style="list-style-type: none"> <li>Action Therapy: Definition, Production (Brief), Physiological &amp; Therapeutic effects of the following – Infrared radiation, Ultraviolet Radiation.</li> <li>Traction.</li> </ol> <p><b>Therapeutic Heat and Cold: UNIT-IV</b></p> <ol style="list-style-type: none"> <li>Therapeutic Heat: Definition, Principles, Physiological &amp; therapeutic effects of moist heat, paraffin wax bath,</li> </ol>	
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		<p>2. High frequency currents ( SWD and MWD)-production biophysical effects types, Therapeutics effects techniques of application indicate contraindications precautions, Operational skills and patient preparation.</p> <p>3. High frequency sound waves (ultrasound )-production biophysical effects types Therapeutic effects techniques of application indication contraindications precautions operational skill and patient preparation.</p> <p><b>UNIT 5</b></p> <p>1. Electro- diagnosis</p> <p>2. Instrumentation, definition &amp; basic techniques of E.M.G. and .ENG.</p> <p>3. Bio- feedback – Instrumentation, principles, therapeutic effects indications contraindication Limitatations precautions operational skill and patient preparations.</p>	<p>and Contrast bath whirl pool bath Fluidotherapy, Electric heating pads.</p> <p>13. Cryotherapy: Principles, Physiological effects, uses of Cold packs, Ice massage, Commercial Cold Packs, Ice Towels, Cold compression Units, Evaporating Sprays.</p> <p><b>High Frequency Currents: UNIT-V</b></p> <p>14. SWD, Principle and Production and Types, Therapeutic Effects, Indications, Contraindication and Dangers</p> <p>15. MWD, Principle, Types, Therapeutic Effects, Indications, Contraindication and Dangers</p> <p>16. Ultrasound. Principle and Production Types, Therapeutic Effects, Indications, Contraindication and Dangers</p> <p>17. Laser: Principle and production Types, Therapeutic Effects, Indications, Contraindication and Dangers</p>	
BPT206(A)		<p><b>UNIT 1</b> History of physiotherapy. Philosophy and Philosophical statements. Major Ethical principles applied to moral issue in health Rules of professional conduct.</p> <p><b>UNIT 2</b> Scope of practice. Relationships with patients. Relationships with medical collogues Relationships between professional with carrier.</p> <p><b>UNIT 3</b> Relationships with in the profession.</p> <p>1. Confidentiality and responsibility.</p>	<p><b>ETHICS AND LAW IN PHYSIOTHDERAPY</b></p> <p><b>UNIT -1</b> History of physiotherapy. Philosophy and Philosophical statements. Major Ethical principles applied to moral issue in health care.</p> <p><b>UNIT -2</b> Rules of professional conduct. Scope of practice. Personnel and professional standard. Professional standard</p> <p><b>UNIT-3</b></p>	Syllabus revision



		<p>2. Pervasion of services and advertising.</p> <p>3. Sale of goods.</p> <p><b>UNIT 4</b> Personnel and professional standard. Professional standard. Professional and government licensing, Accreditation and Education standards.</p> <p><b>UNIT 5</b> <b>Laws and legal concepts.</b></p> <ul style="list-style-type: none"> <li>• Law</li> <li>• Legal concepts..</li> <li>• Act.</li> <li>• Liability and Documentation.</li> </ul>	<p>Relationships with patients. Relationships with medical colleagues <b>Relationships between professional with carrier.</b> <b>Relationships with in the profession.</b></p> <p><b>UNIT-4</b> <b>Confidentiality and responsibility.</b> <b>Pervasion of services and advertising.</b> <b>Sale of goods.</b></p> <p>Professional and government licensing, Accreditation and Education standards.</p> <p><b>UNIT -5.</b> Law Legal concepts. <b>Protection from Malpractice claims.</b> <b>Consumers protection Act.</b> Liability and Documentation.</p>	
BPT206(B)		<p><b>Unit-I</b> Basic Structure of Computers (Qualitative Discussion) Computer Types, Basic Functional Units, Basic Operational Concept, Bus Structure, Software, Performance, Multiprocessor and Multicomputer, IAS Computer, Historical perspectives.</p> <p><b>Unit-II</b> Register Transfer and Micro-operation Register Transfer Language, Register Transfer, Bus and Memory Transfers, Three State Bus Buffers, memory Transfer, Arithmetic and Logical micro-operations, Shift and Arithmetic shifts.</p> <p><b>Unit-III</b> Basic Computer Organization and Design Instruction Codes, Stored Program Organization, Indirect Address, Computer Registers, Common Bus System, Computer Instruction, Timing and Control, Instruction Cycle, fetch Decode, Register Reference Instructions, Memory Reference Instruction, Input-Output and Interrupt, Design of Basic Computer, Design of Accumulator Logic.</p> <p><b>Unit-IV</b></p>	<p><b>COMPUTER SCIENCE</b></p> <p><b>Unit-I</b> Basic Structure of Computers (Qualitative Discussion) Computer Types, Basic Functional Units, Basic Operational Concept, Bus Structure, Software, Performance, Multiprocessor and Multicomputer, IAS Computer, Historical perspectives.</p> <p><b>Unit-II</b> Register Transfer and Micro-operation Register Transfer Language, Register Transfer, Bus and Memory Transfers, Three State Bus Buffers, memory Transfer, Arithmetic and Logical micro-operations, Shift and Arithmetic shifts.</p> <p><b>Unit-III</b> Basic Computer Organization and Design Instruction Codes, Stored Program Organization, Indirect Address, Computer Registers, Common Bus System, Computer Instruction, Timing and Control, Instruction Cycle, fetch Decode, Register Reference Instructions, Memory Reference Instruction, Input-Output and Interrupt, Design of Basic Computer, Design of Accumulator Logic.</p> <p><b>Unit-IV</b></p>	

		<p>CPU Organization Arithmetic and Logic Unit (ALU)- Combinational ALU, 2'S Complement Addition, Subtraction Unit, Booths Algorithm for Multiplication, Division Hardware using Restoration Division Algorithm. General register organization, Control Word, Accumulator Based, Register Based, Stack Type CPU organization.</p> <p><b>Unit-V</b> Introduction to C++: Principles Of Object Oriented Programming (Oop) – Software Evolution - Oop Paradigm – Basic Concepts Of Oop, Benefits Of Oop – Applications Of Oop. Tokens, Keywords, Identifiers, Variables, Operators, Manipulators, Expressions and Control Structures in C++</p>	<p>CPU Organization Arithmetic and Logic Unit (ALU)- Combinational ALU, 2'S Complement Addition, Subtraction Unit, Booths Algorithm for Multiplication, Division Hardware using Restoration Division Algorithm. General register organization, Control Word, Accumulator Based, Register Based, Stack Type CPU organization.</p> <p><b>Unit-V</b> Introduction to C++: Principles Of Object Oriented Programming (Oop) – Software Evolution - Oop Paradigm – Basic Concepts Of Oop, Benefits Of Oop – Applications Of Oop. Tokens, Keywords, Identifiers, Variables, Operators, Manipulators, Expressions and Control Structures in C++</p>	
BPT 301	<p><b>Infection diseases:</b> Tuberculosis tetanus typhoid fever bacillary dysentery amoebiasis HIV Infection &amp; AIDS</p> <p><b>Measles:</b> Nosocornial infection</p> <p><b>Metabolic &amp; deficiency disease</b> Diabetes mellitus obesity vitamin deficiency disease</p> <p><b>Diseases of respiratory system (Anatomy &amp; physiology aspects)</b> Asthma bronchitis collapse bronchiectasis pneumonia lung abscess empyema</p> <ul style="list-style-type: none"> <li>• COPD (Chronic bronchitis &amp; emphysema)</li> </ul> <p><b>UNIT 2</b></p> <p><b><u>CVS</u></b></p> <ul style="list-style-type: none"> <li>• Congenial heart disease (ASD VSD PDA Failot tetra logy) Eisenrenger syndrome</li> </ul> <p><b>Gastrointestinal system:</b></p> <ul style="list-style-type: none"> <li>• Peptic ulcer hematemesis dyspepsia diarrhea malabsorption syndrome.</li> </ul>	<p><b>General medicine of Cardio Respiratory System: UNIT-I</b></p> <ol style="list-style-type: none"> <li>1. Introduction of medicine.</li> <li>2. Diseases of Respiratory System Physiology, clinical presentation in relation to chronic obstructive Pulmonary Disease.</li> <li>3. COPD: Bronchial asthma, Emphysema, Bronchitis Pneumonia Bronchiectasis Pleural effusion &amp; Empyema Thoraces Pneumothorax, Cystic Fibrosis, Lung Abscess</li> <li>4. Cardiac conditions and clinical presentations: Basic anatomy of heart, Coronary circulation and development of heart, Normal Cardiac contraction and relaxation: mechanism and diagnosis. Physiology, clinical Presentation in Ischemic heart disease. Physiology, clinical Presentation Congestive heart failure. Physiology, clinical Presentation peripheral vascular diseases &amp; Deep vein thrombosis</li> </ol> <p><b>Ailments of Renal and Endocrine System: UNIT-II</b></p> <ol style="list-style-type: none"> <li>5. Diseases of Kidney Physiology, Clinical presentation in relation to A R F</li> </ol>	Syllabus revision	

		<p><b>Diseases of kidney</b></p> <ul style="list-style-type: none"> <li>• Post streptococcal glomerulonephritis nephritic syndrome urinary tract infection</li> <li>• Urinary calculi chronic renal failure.</li> </ul> <p><b>UNIT 3</b></p> <ol style="list-style-type: none"> <li>1. Structure and function of normal skin primary and secondary lesion scales &amp; pediculosis</li> <li>2. Fungal infection dermatophytosis pityriasis vesicular candidiasis</li> <li>3. Bacterial infection of the skin impetigo boil.</li> <li>4. Viral infections herpes.</li> <li>5. Eczema dermatitis allergies</li> <li>6. Acute alopecia, vitiligo, leukoderma</li> <li>7. Psoriasis</li> <li>8. Leprosy</li> <li>9. STD &amp; VD- Syphilis gonorrhoea HIV</li> </ol> <p><b>UNIT 4</b></p> <p>Introduction to pediatrics.  B. Growth and development laws of growth, factors affecting growth &amp; development delay.  Developmental milestone: Motor, adaptive, social milestones.  Club foot and flat foot. Clinical profile and treatment.  Knock knees &amp; bow legs Etiology sign, symptom and treatment  Spina bifida &amp; meningocele Diagnosis treatment and complication.  Scoliosis Diagnosis &amp; Management  Congenital Dysplasia Hip. Diagnosis &amp; Management.  Obstetric palsies : Etiology management and follow up &amp; pneumonia  Cerebral palsy</p>	<p>C R F</p> <ol style="list-style-type: none"> <li>6. Endocrine &amp; metabolic diseases. Vit. D &amp; Calcium, Thyroid &amp; parathyroid gland disorders</li> </ol> <p><b>Diseases related to Nutrition, Viral And Bacterial Origin: UNIT-III</b></p> <ol style="list-style-type: none"> <li>7. Nutritional Diseases Physiology, Clinical presentation in relation to Obesity</li> <li>8. Connective Tissue Diseases</li> <li>9. Physiology, Clinical presentation in relation to Rheumatoid arthritis Gout &amp; other connective tissue disorder</li> <li>10. Infection Diseases Tetanus Leprosy</li> <li>11. HIV / AIDS.</li> <li>12. Psychiatric Ailments: Mania, Depression, Schizophrenia, Psychosis Obsessive Compulsive disorders</li> </ol> <p><b>PEDIATRICS MEDICINE: UNIT-IV</b></p> <ol style="list-style-type: none"> <li>1. Describe growth and development of a child from birth to 12 year including physical, social, adaptive development.</li> <li>2. List the maternal and neonatal factors contributing to high risk pregnancy. The neonate: inherited diseases.</li> <li>3. Briefly describe community programmes: International (WHO), national and local for prevention of poliomyelitis, blindness, deafness, mental retardation and hypothyroidism. Outline the immunization schedule for children.</li> </ol> <p><b>PEDIATRIC MEDICINE RELATED TO DISEASES: UNIT-V</b></p> <ol style="list-style-type: none"> <li>4. Cerebral palsy define and briefly outline etiology of prenatal, perinatal and postnatal causes, briefly mention pathogenesis, types of cerebral palsy (Classification), findings on examination, general examination of C.N.S., Musculoskeletal and respiratory</li> </ol>	
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		<p>Osteogenesis imperfect. Pathogenesis type and treatment</p> <p><b>UNIT 5</b></p> <p>Rickets : Etiology clinical picture and treatment</p> <p>Scurvy Etiology clinical picture and treatment.</p> <p>Anemia Etiology type and management</p> <p>PEM Type classification and nutritional therapy.</p> <p>Muscular dystrophy Presentation and management.</p> <p>Genetic Disorders: Diagnosis and treatment.</p> <p>Down's syndrome Clinical profile and management.</p> <p>Epilepsy: Types and treatment.</p> <p>Primary complex diagnosis &amp; treatment.</p> <p>Bronchial asthma: Etiology &amp; treatment including Ac secure asthma.</p> <p>Rheumatic fever Diagnosis criteria, complication &amp; treatment.</p> <p>Rheumatoid arthritis Types and treatment.</p> <p>.</p>	<p>system.</p> <p>Briefly outline associated defects: Mental retardation, microcephally, blindness, hearing and speech impairment, squint and convulsions.</p> <p>Prevention: Appropriate management of risk pregnancies, prevention of neonatal and postnatal infection, metabolic problems.</p> <p>5. Muscular Dystrophy: Outline various from, modes of inheritance and clinical manifestation physical finding in relation to disabilities progression of various from and prognosis. Describe treatment goals in forms which are and are not fatal.</p> <p>6. Still's disease: Classification, Pathology in brief, physical findings, course &amp; prognosis. Outline treatment, prevention and correction of deformity.</p> <p>7. Acute C.N.S. infection: Classify (Bacterial and viral) and outline the acute illness &amp; physiology, clinical presentation.</p> <p>8. Intensive pediatric care &amp; physiology, clinical presentation.</p>	
BPT 302		<p><b>UNIT 1</b></p> <p>1. GENERAL PRINCIPLES OF SURGERY INCLUDING DIFFERENT INCISIONS AND RESULATION.</p> <p>2. DIFFERENT TYPES OF ANESTHESIS, PRINCIPLES OF PROCEDURES, COMPLICATIOON AND MANAGEMENT.</p> <p>Healing by 1<sup>ST</sup> &amp; 2<sup>nd</sup> intention.</p> <p>Factors influencing would healing</p> <p>Pathogenesis of healing</p> <p>Scars</p> <p>Hypertrophic scar</p> <p>Keloid</p> <p>Types of wounds</p> <p>Shock-types, clinical feathers,</p>	<p><b>I) General surgery: UNIT-I</b></p> <p>1. Principal of pre and postoperative management of surgical patients.</p> <p>2. Common pre and postoperative complication</p> <p>3. Surgical intensive care.</p> <p>4. Description of events frequently accompanying in general anesthesia, blood transfusion and physiological response of the body to surgery.</p> <p><b>II) Cardiothoracic Surgery : UNIT-II</b></p> <p>Incisions used in cardiothoracic surgery – General pre and postoperative managements of cardiothoracic surgery – Various surgical procedures for various chest cardiac condition / disease.</p>	Syllabus revision

	<p>pathogenesis treatment. Haemoshage- types, clinical features &amp; management. Fluid &amp; electrolyte balances. Blood transfusion - Indications &amp; management.</p> <p><b>UNIT 2</b> Type of incision, pre and post operative Assessment, management and complications of Cardiothoracic Surgery and their management. Outline indications, Contra-indication, site of incision, pre and post operative management and complications of the following.</p> <p>Operations in congenital disorders. Heart transplantation. Pacemaker Coronary Angioplasty. Balloon Angioplasty and Vascular Surgery. (Outline surgery of Artery and veins)</p> <p><b>UNIT 3</b> a.Outline clinical features and management of the following: fracture of ribs, Flail chest, stove in chest, Pneumothorax, Lung Contusion and Laceration and injury to Vessels and Bronchus.</p> <p><b>UNIT 4</b> a.Describe abdominal surgical incisions. b.Outline about definition, indications with features, anesthesia, incisions, drains and complications about various surgeries like Nephrectomy, Appendicectomy, Herniorraphy, Mastectomy, thyriodectomy, colostomy, Adrenalectomy, Cystectomy, Hysterectomy, Prostatectomy, Cholecystectomy, Ileostomy, Surgical procedures in various types of Hernias. c. Anal fissure, fistula, hemorrhoids caranal canal rectal prolapsed d. Cholelethiasis, Cholecystitis Neoplasms</p>	<p>Valvotomy and Valve Replacement. Open Heart Surgery/ Cardiac By pass Surgery. Surgery on Pericardium.</p> <p><b>III) OBS and GYN: UNIT-III</b> 1. Anatomy of pelvic organs mechanism &amp; physiology of pelvic floor sphincter muscles. 2. Pregnancy – stage of pregnancy – Labor – stage of labor – delivery, effect of menopause in emotions and musculoskeletal system &amp; common gynecological problems.</p> <p><b>IV)Plastic surgery: UNIT-IV</b> Principal of cinesplasty, tendon transplant, cosmetic surgery, types of grafts, Surgery of hand with emphasis on managements of traumatic injuries and leprosy.</p> <p><b>V) Abdominal Surgeries and Burns: UNIT-V</b> 1. Abdominal surgery: Incision complication and management of various abdominal surgeries. 2. Wounds, Sinuses and ulcers. 3. Burns: Degrees of burns and managements and reconstructive surgery following burns and complication of Burns.</p>	
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	BPT 303			
		<p><b>UNIT 1</b></p> <p><b>A. Fractures</b> Types healing complications general principles of treatment .spine pelvis hip joint femur patella knee joint cartilage and ligaments tibia Fibula ankle calcaneum metacarpal phalanges. .Fracture separation of epiphysis .sprains and sprains .injuries of muscles and tendons .dislocations elbow shoulder hip ankle .traumatic paraplegia</p> <p><b>UNIT 2</b></p> <p>Tuberculosis &amp; pyogenic osteomyelitis tuberculous clinical features pathology, Management operation and non operative <b>RHEUMATOID ARTHRITIS</b> Tuberculosis arthritis Pyogenic arthritis Etiology pathology clinical feature management operative and non-operative <b>GOUTY ARTHRITIS</b> Hemophilic joints Neuropathy joints Etiology pathology clinical features management</p> <p>Tendon sheath and bursa cause management of injuries tenosynovitis Bursitis etc. ankle wrist knee elbow shoulder hip hand.</p> <p><b>UNIT 3</b> torticollis cervical rib spin bifida spondylolisthesis scoliosis kyphosis lordosis spondylosis ( cervical spine and lumbar spine) prolapsed disc Etiology pathology clinical feature management. Rickets, Osteomalacia., Osteoporosis, Etiology, Pathology, Clinical features, Management</p> <p><b>B. Bone Tumours,</b> Benign &amp; Malignant, Classification,</p>	<p><b>UNIT-I: Introduction to Orthopedics fractures and Dislocations</b> Fracture dislocations and regional orthopedic disorders in relation to orthopedic management.</p> <p><b>UNIT-II: Deformities and Inflammatory Disorders in Orthopedics</b> Deformities: Common congenital and acquired deformities of foot, knee, hip, shoulder, elbow, and wrist including hand and spine Cervical rib, torticollis, metatarsalgia, claw hand and orthopedic management. Inflammatory condition and lesions of joint and bones Osteoporosis, tuberculosis, pyogenic infection. Osteoarthritis, T.B. joints, Tenosynovitis, synovitis, capsulitis, tendonitis, Osteoporosis and osteomalacia, Sciatica, low back pain, brachial neuralgia Rheumatological disorders in detail and orthopedic management &amp; above conditions.</p> <p><b>UNIT-III: Surgical Procedures in Orthopedics</b> Operative Procedures, amputation Common sites, causes &amp; management, Arthroplasty of joints, joint replacement (total and partial), Osteotomy Reconstructive surgeries for the rehabilitation of Poliomyelitis, traumatic condition, spine, hand foot. Principle of Tendon transfer and its procedure.</p> <p><b>UNIT-IV Pediatrics Orthopedics</b> Pediatric musculoskeletal conditions and management</p> <p><b>UNIT-V : Sports Injury &amp; Radiological Assessment and Examination</b> Sports injuries and its management Radiological examination.</p>	Syllabus revision

		<p>Pathology, Clinical Features, Management including chemotherapy and Radiotherapy.</p> <p>Hip, Perthes Disease, Avn Hip, Coxa Vara, Coxa , Valga, Paralytic Dislocations, Etiology, Pathology, Clinical Features, Management Dislocation, Cartilag lesionsOsteoarthritis and loose bodies, Dislocation of patella, Chondromalacia patella, Genu Valgum, Genu Varum, Genu Recurvatum Osgood schlatter’s disease.</p> <p><b>UNIT 4</b>  <b>Degenerative Disease</b>  Of Hip, Knee, Ankle, Spine, Shoulder, Elbow, Wrist, Hand.  <b>Poliomyelitis.</b>  <b>Cerebral Palsy.</b>  <b>Peripheral Nerve Injuries.</b>  <b>Amputations</b>  Foot above knee, below knee, hip and pelvis , above elbow, below elbow.  <b>Foot and Ankle.</b>  CTEV, Pescus, Pesvalgus, Hallux Valgus, Footsprains, Metatarsalgia, Hallux Rigijs calcaneal owing toe nail.  <b>Shoulder</b>  Painfu are syndrome, periarthritjs, recurrent dislocation, Biceps-tendinitjs frozen shoulder.  <b>Elbow, Wrist, Hand</b>  Osteoarthritis, tennis elbow, Golfer’s elbow cubitus varus, valgus, Myositis, ossificans Tardy Ulnar neuritis, Madelug;s deformity carpal tunnel syndrome, Duputerynes contracture Mallet finger, De-querveins disease.</p> <p><b>UNIT 5</b>  <b>Operations</b>  Operation Management offractures, operative management of joints. Arthroplasty, ARTHRODESIS. Bone grafting osteotomy, tendon transfers.</p>		
	BPT 304	<p><b>UNIT 1</b>  <b>1. NEUROANATOMY.</b>  Review the basic anatomy of the brain</p>	<p><b>Neurology General Principles: UNIT-I</b>  General principles of neurological and</p>	Syllabus revision

	<p>and spinal cord including: Blood supply of the brain and spinal cord, anatomy of the visual pathway, connections of the cerebellum, and extra pyramidal system, relationship of the spinal nerves to the spinal cord segments, long tracts of the spinal cord, the brachial and lumbar plexuses, and cranial nerves.</p> <p><b>UNIT 2</b> <b>NEUROPHYSIOLOGY</b> Review in brief the Neurophysiologic basic of disorder of tone posture, bladder control, muscle contraction, movement and pain.</p> <p><b>UNIT 3</b> <b>3. CLINICAL FEATURE &amp; MANAGEMENT.</b> Briefly outline the clinical features and management of the following Neurological Disorders: 1) Congenital childhood disorders. Cerebral palsy Hydrocephalus Spina Bifida</p> <p>2) Cerebrovascular accident. General classification: thrombotic, embolic. Haemorrhagic, inflammatory strokes. Gross localization and sequelae. Detailed rehabilitative programme.</p> <p><b>UNIT 4</b> Trauma-broad localization, first aid and management of sequelae of head injury and spinal cord injury. Diseases of the spinal cord. Craniocerebral junction anomalies. Syringomyelia. Cervical and lumbar disc pesions. Tumours.Spinal archnoiditis. Demyelinating diseases (central and peripheral) Guillian- Barre syndrome. Acute disseminated encephalomyelitis. Transverse myelitis. Multiple sclerosis6. Degenerative disorders. Parkinson’s disease. Dementia Infections.</p>	<p><b>neurophysiologic and diagnosis.</b></p> <p><b>Stroke : UNIT-II</b> Cerebrovascular diseases Cerebral vascular accident</p> <p><b>Infections and disorders of Nervous System: UNIT-III</b> Acute infection of C N S Parkinsonism and other extra- pyramidal disorder. M S &amp; other disease.</p> <ul style="list-style-type: none"> <li>• ALS (amyotrophic lateral sclerosis) and other motor neuron diseases.</li> <li>• Diseases of peripheral nerves, cranial nerves, G.B.S. including peripheral nerve injury</li> <li>• Myasthenia Gravis</li> <li>• Diseases of muscles (polymyositis muscular dystrophy)</li> <li>• Cervical and lumbar spondylosis and disc prolapsed.</li> <li>• Neurosurgical Intensive care</li> </ul> <p><b>Neurosurgery : UNIT-IV</b> <b>Head injury – Cause and mechanism of head injury subdural, epidural and intracranial bleeding, types of neurological disorder, management of head injury.</b> <b>Tumors of neurological system management.</b> <b>Cranial &amp; spinal cord legion management.</b> <b>Paraplegia, hemiplegia, quadriplegia.</b> <b>Neurogenic bladder – classification</b></p> <p><b>Pediatric Neurology and Surgical Procedures of Brain and Spinal Cord: UNIT-V</b> Pediatric conditions – Spina Bifida, Hydrocephalus, Peripheral nerve lesion <b>Surgical management of brain disease and CVA.</b> <b>Personality disorder, epilepsy.</b></p>	
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		<p>Tuberculous infection of central nervous system. Poliomyelitis.</p> <p><b>UNIT 5</b> Diseases of the muscle : classification, signs, symptoms, progression and management Peripheral nerve disorders. Peripheral nerve injuries : localization and management. Entrapment neuropathies. Peripheral neuropathies. 10. Miscellaneous. Epilepsy: aetiology. Myasthenia Gravis. Intracranial tumour Motor neuron disease.</p>		
BPT 305	<p><b>UNIT 1</b> Introduction importance of research in Clinical practice scientific approach, characteristics, purpose and limitations. Ethical issues in research, elements of informed consent</p> <p><b>UNIT 2</b> Structure of a research proposal and research report. Consent form- steps of documentation, structure. Research question including literature review.</p> <p><b>UNIT 3</b> Measurement: Principles of measurement, reliability and validity. .Overview of study design Various sampling methods. Tables, master charts and graphs.</p> <p><b>UNIT 4</b> Biostatistics: Basis probability distribution and sampling distribution. . Descriptive statistics. . Standard errors and confidence interval, skewness, &amp; kurtosis</p> <p><b>UNIT 5</b> . Comparison of means, T-tests. . Analysis of variance. . Multiple comparisons. . Non-parametric statistics. . Correlations.</p>	<p><b>UNIT-I: Introduction to Research And Process</b></p> <ol style="list-style-type: none"> <li>1. Review of literature.</li> <li>2. Study design.</li> <li>3. Sample size.</li> <li>4. Sampling variability &amp; significance.</li> <li>5. Protocol writing.</li> <li>6. Ethical aspects.</li> </ol> <p><b>UNIT-II: Methods of Data Collection and other statistical significance</b></p> <ol style="list-style-type: none"> <li>7. Data collection analysis, interpretation and presentation.</li> <li>8. Common statistical terms.</li> <li>9. Measures of location, average &amp; percentiles.</li> <li>10. Normal distribution &amp; normal curve.</li> <li>11. Demography &amp; vital statistics.</li> <li>12. Correlation of measures of population &amp; vital statistics</li> <li>13. in Research. Use of micro Computers</li> </ol> <p><b>UNIT-III: Statistical Formulations</b></p> <ol style="list-style-type: none"> <li>14. Probability.</li> <li>15. Variability &amp; its measures.</li> <li>16. Significance of difference in mean.</li> <li>17. Chi- square test.</li> <li>18. Correlation &amp; regression.</li> <li>19. Hypothesis</li> </ol>	Syllabus revision	

	<p>. Test of significance</p>	<p><b>UNIT-IV (Management studies)</b>  Professional management ethics, administration, budget and development of organization.</p> <ul style="list-style-type: none"> <li>A. Definition - Branches of management - Principals of health sector management</li> <li>B. General principals of managements – Theories of Management</li> <li>C. Personal management – policies and procedures, basis concepts and theories.</li> <li>D. Financial issue including budget and income generation</li> <li>E. Principals of an organization chart.</li> <li>F. Organization of a department planning, space, manpower, material, basic requirements.</li> <li>G. Resources and quality management – planning with change and coping with change.</li> <li>H. Self – Management.</li> <li>I. Preparing for 1st job</li> <li>J. Time management</li> <li>K. Career development</li> </ul> <p><b>UNIT-V (Professional management and ethics)</b></p> <ul style="list-style-type: none"> <li>i. The implication of and confirmation to the rules of professional conduct.</li> <li>ii. Legal responsibility for their action in the professional context and understanding liability and obligation in case of medico- legal action</li> <li>iii. A wider knowledge of ethics relating to current social and medical policy in the provision of health care.</li> <li>iv. National and international professional bodies: as a professional association and education body – Difference between scientific association (professional body) and statutory body.</li> </ul>	
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			The role of international health agencies such as WHO	
BPT 306(A)	<p><b>UNIT1</b> Natural history of disease and the influence of social economic and cultural aspect. Describe the various measures of prevention and levels of intervention for person with disability</p> <p><b>UNIT2</b> Public health administrative system at central and state government. Describe the selective national health schemes.</p> <p><b>UNIT3</b> Objectives and strategies of national family welfare program Describe various Employees state insurance schemes.</p> <p><b>UNIT 4</b> Describe Community based and Institution based rehabilitation. Advantages and disadvantages. Describe occupational health and various hazards. And prevention .</p> <p><b>UNIT 5</b> Describe the following community diseases :- Poliomyelitis, Meningitis , encephalitis, tuberculosis, Filariasis, leprosy, tetanus, Measles.</p> <p>Describe the Influence of nutritional factors on disability and various nutritional deficiency disorders</p>	<p><b>UNIT I: Introduction to Community Medicine</b></p> <ol style="list-style-type: none"> <li>1. General concepts of health and diseases, health determinants , with reference to natural history of disease with pro-pathogenic and pathogenic phases. The role of socio economic and culture environment in health and disease. Epidemiology, emerging demographic changes, definition and scope.</li> <li>2. Introduction to community health.</li> <li>3. Public health administration an overview of health administration set up at Central and state levels.</li> </ol> <p><b>UNIT II: National Health Programmes and Strategies</b></p> <ol style="list-style-type: none"> <li>4. The national health programme – highlighting the role of social, economic and culture factors in the implementation of the national programme.</li> <li>5. Health problems of vulnerable groups- pregnant and lactating woman, infant and pre – school children, occupational groups.</li> <li>6. CBR and Institutional based rehabilitation and strategies to intervene in rural health system.</li> <li>7. CBR in relation to different medical &amp; surgical conditions.</li> </ol> <p><b>UNIT III: Occupational Health and Social Security</b></p> <ol style="list-style-type: none"> <li>8. Occupational Health – definition scope occupational disease prevention of occupational diseases and hazards.</li> <li>9. Social security and other measurement for the protection from occupational hazards accident and diseases. Details of compensation acts.</li> </ol> <p><b>UNIT IV: Family Planning and Mental Health</b></p> <ol style="list-style-type: none"> <li>10. Family planning – objectives of national family planning</li> </ol>	Syllabus revision	

			<p>programmes and family methods. A general idea of advantage and disadvantage of the methods.</p> <p>11. Mental health emphasis on community aspects of mental, role of occupational therapist in mental health problems such as mental retardation etc.</p> <p><b>UNIT V: Communicable Diseases and Epidemiology</b></p> <p>12. Communicable disease- an overall view of communicable role of insect and other factors.</p> <p>13. International health agencies.</p> <p>14. Community medicine and rehabilitation epidemiology, habitat nutrition, environment anthropology.</p> <p>a. The philosophy and needs of rehabilitation</p> <p>b. Principles of physical medicine</p> <p>c. Basic principles of administration of organization.</p>	
BPT 306(B)	<p>UNIT 1.</p> <ul style="list-style-type: none"> <li>• Introduction and terminology: prosthesis and orthosis.</li> <li>• Classification of orthoses and prostheses.</li> <li>•</li> </ul> <p>UNIT 2</p> <ul style="list-style-type: none"> <li>• Bio-mechanical principles of orthotic application.</li> <li>• Bio-mechanical principles of prosthetic application.</li> </ul> <p>UNIT 3</p> <ul style="list-style-type: none"> <li>• Designing of upper and lower extremity and spinal orthosis including indications and check out.</li> </ul> <p>UNIT 4</p> <ul style="list-style-type: none"> <li>• Designing of upper extremity prostheses, indications and check out.</li> <li>• Designing of lower extremity prostheses,</li> </ul>	<p>UNIT 1.</p> <ul style="list-style-type: none"> <li>• Introduction and terminology: prosthesis and orthosis.</li> <li>• Classification of orthoses and prostheses.</li> <li>•</li> </ul> <p>UNIT II:</p> <ul style="list-style-type: none"> <li>• Bio-mechanical principles of orthotic application.</li> <li>• Bio-mechanical principles of prosthetic application.</li> </ul> <p>UNIT III:</p> <ul style="list-style-type: none"> <li>• Designing of upper and lower extremity and spinal orthosis including indications and check out.</li> </ul> <p>UNIT IV:</p> <ul style="list-style-type: none"> <li>• Designing of upper extremity prostheses, indications and check out.</li> <li>• Designing of lower extremity prostheses, indications and</li> </ul>	No change	

		<p>indications and check out</p> <ul style="list-style-type: none"> <li>• Materials used for fabrications.</li> </ul> <p>UNIT 5.</p> <ul style="list-style-type: none"> <li>• Psychological aspects of orthotic and prosthetic application.</li> <li>• Prescription and design of foot wear and modifications.</li> <li>• Wheel chairs</li> <li>• Design and construction of adaptive devises.</li> </ul>	<p>check out</p> <ul style="list-style-type: none"> <li>• Materials used for fabrications.</li> </ul> <p>UNIT V:.</p> <ul style="list-style-type: none"> <li>• Psychological aspects of orthotic and prosthetic application.</li> <li>• Prescription and design of foot wear and modifications.</li> <li>• Wheel chairs</li> <li>• Design and construction of adaptive devises.</li> </ul>	
	BPT401	<p><b>UNIT 1</b></p> <p>1. Brief review of the following surgical condition and various physiotherapeutic modalities, aims, means and technique of physiotherapy should be taught.</p> <p>2. Traumatology General Physiotherapeutic approach for the following conditions:</p> <p>3. Fracture and dislocations: Classification and type of displacement, method of immobilization, healing of fractures and factors affecting union, non union, delayed union etc. common sites of fractures,.</p> <p>4. Specific fractures and their complete physiotherapeutic management.</p> <p><b>UNIT 2</b></p> <p>1. Upper limb: Clavicle, humerus, ulna, radius, crush injuries of hand.</p> <p>2. Lower Limb: fracture neck of femur, shaft of femur, patella, tibia fibula, pott's fracture, fracture of tarsal and metatarsals.</p> <p>3. Spine: fracture and dislocations of cervical thoracic and lumbar vertebrae with and without neurological deficits.</p> <p>4. Surgical procedures: Pre and post operative management of common corrective procedure like arthroplasty, arthrodesis, osteotomy, tendon transplants, soft tissue release grafting, including polio residual</p>	<p><b>UNIT-I INTRODUCTION TO PT REHABILITATION</b> Brief review of Orthotics conditions and various Physiotherapeutic modalities, aim, mean and techniques of Physiotherapy should be taught.</p> <p><b>UNIT-II Rehabilitation of Fractures and Dislocations</b> Dislocations: Classification – types of displacements methods of immobilization. Healing of fracture and factor influencing union, non – union, delayed union etc. Specific fracture and their complete Physiotherapeutic management. Physiotherapeutic management of fracture of spine with paraplegia and without neurodeficit. Fracture cast bracing and mobilization</p> <p><b>UNIT-III Rehabilitation of Soft Tissue Injuries and Amputation</b> Physiotherapy in relation to soft tissue injuries Physiotherapy in relation to amputation</p> <p><b>Unit-III Pediatric rehabilitation</b> Physiotherapy in relation to various deformities e.g. CTEV, Pes planus, pes cavus etc.\ Physiotherapy in various acquired &amp; congenital spinal cord disorders.</p> <p><b>UNIT-IV Rehabilitation of</b></p>	Syllabus revision

		<p>paralysis and leprosy deformities corrections.</p> <p>5.Injuries: Soft tissue injuries, synovitis, capsulitis volkman’s ischemic contracture etc. tear of semilunar cartilage and cruciate ligaments of knee, menisectomy, patellectomy, internal derangement of knee.</p> <p><b>UNIT 3</b></p> <p>A.Amputation: Level of amputation of upper limb and lower limb, stump care, stump bandaging pre and post prosthetic management including check out of prosthesis, training etc. Deformities: Congenital tortiCollis and cervical rib, CTEV, Pes cavus , pes planus and other common deformities.</p> <p>Acquired- Scoliosiskyphosis, lordsis, coax vara, genu valgum, genu varum and recurvatum.</p> <p><b>UNIT 4</b></p> <p>Degenerative and infective conditions: osteoarthritis of major joints, spondytosis, spendylitis, spondylolisthesis, PIVD, Periarthritis of shoulder, Tuberculosis of spine, bone and major joint perthes disease, Rheumatiod arthritis, Ankylosing spondylitis etc. and other miscellaneous orthopaedic conditions treated by physiotherapy.</p> <p><b>UNIT 5</b></p> <p>Principle of sports physiotherapy – causes of sports injury, prevention of sports injuries, management of acute sports injury, common occurred injuries. Role of physiotherapist in sports principle and advanced rehabilitation of the injured athlete.</p>	<p><b>Inflammatory Conditions and Sports Injuries</b></p> <p>Physiotherapy in relation to arthritis Physiotherapy in Sports Injuries</p> <p><b>UNIT-V Special techniques of Rehabilitation and Treatment in Physiotherapy</b></p> <p>BASIC Concepts of : Maitland, Kaltenborn, Cyriax, Mulligan, McKenzie.</p> <p>Neurodynamics, Muscle Energy Techniques. Myofascial Release techniques</p> <p><b>Special techniques Brief Introduction and Application Principles, Indications, Contraindications of : Dry Needling, Taping and Cupping</b></p>	
BPT 402		<p><b>UNIT 1</b></p> <p><b>REVIEW OF NEUROANATOMY AND PHYSIOLOGY.</b></p> <p>Review the structure and function of a ) neuron b) synapse c) supporting tissue, Review the organization and function of a) cerebral hemispheres b) cerebellum c) spinal cord d) peripheral nerves e) pyramidal system f) extra pyramidal system. Review the factors</p>	<p><b>UNIT-I Neuroanatomy</b></p> <p><b>Review the basic anatomy of the brain and spinal cord including:</b> Blood supply of the brain and spinal cord, anatomy of the visual pathway, connection of the cerebellum and extra pyramidal system, relationship of the spine cord segment, long tracts of the spine cord, the brachial and lumbar</p>	Syllabus revision

	<p>influencing alpha motor neuron activity. Review the neurological basis of muscle tone and movement and demonstrate the following: a) hypertonia b) – spasticity and rigidity c) ataxia d) athetosis e) chorea).</p> <p><b>UNIT2</b>  <b>PRICIPLES OF TREATMENT :</b>  Review the treatment principles as follows:-  Sensory re –education: hypersensitivity, hyposensitivity and anesthesia.  Treatment of altered tone: hyper tonicity and hypo tonicity.</p> <p>Review the use of ambulatory aids in neurological conditions: In spastic upper motor neuron lesions, In lower motor lesions, in dorsal column dysfunction and cerebral dysfunction.</p> <p><b>UNIT 3</b>  <b>CEREBRAL PALSY:</b>  Define cerebral palsy and describe the topographical classification- monoplegia, diplegia, paraplegia, hemiplegia &amp; tetraplegia. Describe types of cerebral palsy. Visual hearing, speech and intelligence. Assess reflex activity at different levels: Cortical, mid brain, brain stem, spinal. Assess developmental milestones form birth to five years, Assess functional ability: Prone to supine ( rolling) Coming to sitting, quadruped, crawling, kneeling, kneel-stand, stand with support and walking. Examine for contractures as follows: hip flexion, adduction, internal rotation: Knee flexion: ankle plantar flexion, inversion/ aversion. Flexion contracture of elbow, wrist &amp; fingers and spinal deformities.</p> <p><b>UNIT4</b>  <b>MUSCULAR DYSTROPHY.</b>  Describe stages of the disease: ambulatory, wheelchair and bed stages. Describe significance of exercise resisted, active and free. Identify and assess common contractures and deformities. Assess range of motion and muscle power.</p>	<p>plexuses and cranial nerves.</p> <p><b>UNIT-II Neurophysiology</b>  Review in brief the Neurophysiologic basis of : tone and disorders of tone and posture, bladder control, muscle contraction and movement and pain.</p> <p><b>UNIT-III PEDIATRIC, DEGENERATIVE AND INFECTION MANAGEMENT OF NERVOUS SYSTEM</b>  Clinical Features &amp; Managements  Briefly outline the clinical features and management of the following Neurological Disorders.</p> <ol style="list-style-type: none"> <li>1. Congenital and childhood disorders. <ol style="list-style-type: none"> <li>a. Hydrocephalus</li> <li>b. Spina Bifida</li> <li>c. Arnold Chiari malformation, Dandy</li> </ol> </li> <li>2. Degenerative disorders. <ol style="list-style-type: none"> <li>a. Parkinson’s disease</li> <li>b. Dementia</li> </ol> </li> <li>3. Infections <ol style="list-style-type: none"> <li>a. Pyogenic Meningitis sequelae</li> <li>b. Tuberculosis infection of central nervous system</li> <li>c. Poliomyelitis</li> <li>d. Brain abscess</li> </ol> </li> </ol> <p><b>UNIT-IV PT MANAGAMENT OF STROKE AND BRAIN ANOMALIES</b></p> <ol style="list-style-type: none"> <li>4. Cerebrovascular accidents. <ol style="list-style-type: none"> <li>a. General classification, thrombotic, embolic, hemorrhagic and inflammatory stroke</li> <li>b. Gross localization and sequelae</li> <li>c. Detailed rehabilitative programme.</li> </ol> </li> <li>5. Trauma – board localization, first aid and management of sequelae of head injury and spinal cord injury.</li> <li>6. Diseases of the spinal cord <ol style="list-style-type: none"> <li>a. Craniovertebral junction</li> </ol> </li> </ol>	
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	<p>Assess functional ability.</p> <p><b>PARKINSONISM:</b> Review the natural history, course and prognosis of the disease. Identify and assess problems in posture sitting, kneeling and standing balance, voluntary and automatic movements, rigidly. Tremor and gait. Assess also hearing, speech and finger dexterity. Describe disability grading according to Yulu.</p> <p><b>SPINAL CORD LESIONS:</b> Describe types of spinal cord lesions. Describe sign of tract and root interruptions, Describe positioning of the patient in acute spinal cord injury, Describe assessment of the motor system: tone, power of specific muscle range of motion and limbs girth. Describe assessment of sensory system and reflexes..</p> <p><b>HEMIPLEGIA:</b> Define hemiplegia and identify the following: Sensory disturbance, alterations in tone, loss of selective movement, loss of balance reactions and communications problems</p> <p><b>POLIOMYELITIS:</b> Define poliomyelitis and review the stages in the disease –acute, recovery and residual paralysis. Describe treatment in the acute stage: heat chest care, positioning. Describe the assessment of a patient in the recovery stage: active and passive range of motion, soft tissue tightness, muscle power &amp; spinal deformities..</p> <p><b>UNIT 5</b> Review the examination &amp; assessment of a pediatric patient. Review of pathological change and principle of management by physiotherapy of the following conditions: Common congenital and acquired muscle skeletal disorders. Common congenital and acquired neurological disorders (CNS &amp; PNS) Common heredity disorders. Common nutritional, metabolic &amp;</p>	<p>anomalies.</p> <ol style="list-style-type: none"> <li>b. Syringomyelia</li> <li>c. Tumors</li> <li>d. Spinal arachnoiditis</li> </ol> <ol style="list-style-type: none"> <li>7. Demyelinating diseases (central and peripheral)       <ol style="list-style-type: none"> <li>a. Gullian – Barre Syndrome</li> <li>b. Acute disseminated encephalomyelitis</li> <li>c. Transverse myelitis</li> <li>d. Multiple sclerosis</li> </ol> </li> <li>8. Diseases of the muscle including myopathies: Classification, signs, symptoms, progression and management.</li> <li>9. Peripheral nerve disorder       <ol style="list-style-type: none"> <li>a. Epilepsy ; Definition, Classification and management</li> <li>b. Myasthenia Gravis : Definition, course and management</li> <li>c. Motor neuron disease</li> <li>d. Herniation of brain</li> </ol> </li> </ol> <p><b>UNIT-V Neurological Assessment</b> Clinical assessment of neurological function to be taught through beside or demonstration clinics spread out over at least 5 session.</p> <ol style="list-style-type: none"> <li>1. Basic history to determine whether the brain, spinal cord or peripheral nerves is involved</li> <li>2. Assessment of higher mental function such as orientation, memory, attention, speech and language.</li> <li>3. Assessment of cranial nerves.</li> <li>4. Assessment of motor power.</li> <li>5. Assessment of sensory function touch, pain and position</li> <li>6. Assessment of tone – spasticity, rigidity and hypotonic.</li> <li>7. Assessment of cerebellar function</li> <li>8. Assessment of higher cortical function – apraxia etc.</li> <li>9. Assessment of gait abnormalities</li> </ol>	
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		<p>vitamin deficiency disorders Cerebral palsy, myopathy and muscular dystrophies.</p>		
BPT 403	<p><b>UNIT 1</b> <b>General Medicine</b> Review of the Pathological and principles of management by physiotherapy to the following conditions.</p> <ol style="list-style-type: none"> <li>1. Inflammation – acute, chronic and suppurative</li> <li>2. Edema-Traumatic, Obstructive, Paralytic, Edema due to poor muscle and laxity of the fascia.</li> </ol> <p><b>UNIT 2</b> Arthritis and Allied conditions (in details): Osteo-Arthritis-generalized, Degenerative and traumatic, Spondylosis and disorders. Rheumatoid Arthritis, Still’s disease, infective Arthritis. Spondylitis, ankylosing spondylitis. Nonarticular Rheumatism- Fibrositism, Myalgia, bursitis, peri-arthritis etc. Common conditions of Skin-Acne, Psoriasis, Alopecia, Leucoderma, leprosy, Sexually transmitted diseases. Deficiency disease- Rickets, Diabetes, Obesity, Osteoporosis and other deficiency disorders related to physiotherapy.</p> <p><b>UNIT 3</b> <b>General, Gynaecology and Obsteries and ENT.</b></p> <p>Review of pathological changes and principle of pre and post operative management by physiotherapy of the following conditions:</p> <ol style="list-style-type: none"> <li>1) Common abdominal surgeries. Including GIT, liver, spleen, Kidney, bladder etc.</li> <li>2) Common operation of reproductive system, including surgical intervention for child delivery. Ante natal &amp; post natal, physiotherapy.</li> </ol>	<p>Brief review of the following surgical condition and various Physiotherapeutic modalities aims means and techniques of physiotherapy should be taught and complication. <b>Peripheral Nerve Injuries. Pre &amp; Post operative physiotherapeutic managements of Nerve Repair / Grafting.</b></p> <p><b>UNIT-II Rehabilitation in Cardio-Respiratory Surgery</b></p> <ul style="list-style-type: none"> <li>• Postural drainage &amp; respiratory physiotherapy in CTVS</li> <li>• Physiotherapy in patients on ventilators</li> <li>• Pre and post Operative physiotherapy management of following conditions</li> <li>• Thoractomy Lobectomy Thoracoplasty Pneumonectomy</li> <li>• Orientation about atelectasis, pneumothorax, pre and post operative physiotherapy management of cardiac surgery, open heart surgery.</li> </ul> <p><b>UNIT-III PT Management following Burns, skin graft and Hand</b></p> <ul style="list-style-type: none"> <li>• Burn &amp; its classification physiotherapy management.</li> <li>• Pre &amp; postoperative physiotherapy of skin grafting.</li> <li>• Physiotherapy of case after reconstructive surgery of hand.</li> <li>• Physiotherapy in Hand Injury.</li> </ul> <p><b>UNIT-IV Rehabilitation of Abdomen</b></p> <ul style="list-style-type: none"> <li>• Abdominal Surgical Quadrants</li> <li>• Pre and post Operative physiotherapy management of following abdominal surgical conditions including incisions pre and postoperative complications</li> </ul>	Syllabus revision	

		<p>3) Common operations of the ear, nose, throat &amp; Jaw as related to physiotherapy.</p> <p>4) Common organ transplant surgeries – heart, liver, bone marrow etc.</p> <p><b>UNIT 4</b> <b>Wounds, Burns &amp; Plastic Surgery.</b></p> <p>Review of pathological changes and principle of pre and post operative management by physiotherapy of the following conditions:</p> <ol style="list-style-type: none"> <li>1) Wounds, ulcers, pressure sores:</li> <li>2) Burns &amp; their complications.</li> <li>3) Common reconstructive surgical proceedings of the management of wounds, ulcers, burns &amp; consequent contractures &amp; deformities.</li> </ol> <p><b>UNIT 4</b> <b>Neurosurgery.</b></p> <p>Review of pathological changes and principle of pre and post operative management by physiotherapy of the following conditions.</p> <ol style="list-style-type: none"> <li>1) Common surgeries of the cranium &amp; brain.</li> <li>2) Common surgeries of vertebral column &amp; spinal cord.</li> <li>3) Common surgeries of peripheral nerves.</li> <li>4) Surgical interventions in traumatic head injuries.</li> </ol>	<ul style="list-style-type: none"> <li>• Herniorrhaphy Nephrectomy Radical Mastectomy etc</li> </ul> <p><b>UNIT-V Physiotherapy Rehabilitation in Obstetrics/Gynecology</b></p> <ul style="list-style-type: none"> <li>• Physiotherapy in obstetrics</li> <li>• Physiotherapy in PID, Stress incontinence, prolapsed uterus, etc.</li> </ul> <p>Pre &amp; post operative physiotherapeutic managements of Neurosurgical conditions</p>	
BPT 404		<p><b>UNIT 1</b></p> <ol style="list-style-type: none"> <li>1. Review of mechanism of normal respiration (rate, rhythm, use of accessory muscles)</li> <li>2. Chest examination, including auscultation, percussion (Symmetry of chest movement)</li> <li>3. Knowledge of various investigative procedures (invasive &amp; non invasive) use in the diagnosis of</li> </ol>	<p><b>UNIT-I Introduction to PT Management with Basics of Rehabilitation</b></p> <p><i>Introduction – Brief review of the following surgical condition and various Physiotherapeutic modalities aims means and techniques of physiotherapy should be taught</i></p> <p><i>Prior to beginning with various conditions brief introduction of breathing exercises and postural drainage in detail to be taught.</i></p>	Syllabus revision

		<p>various respiratory disorders.</p> <p>4. Chest deformities (Barssel chest, pigeon chest)</p> <p><b>UNIT 2</b> Measurement: Chest expansion at different levels. Techniques of physical treatment: Breathing exercise, Chest mobilization exercises Postural drainage. Huffing coughing, Vibratory chest shaking &amp; percussion. Brief idea About cardiothoracic procedure like suction , mechanical ventilation, AMBU Bag, extubation care.</p> <p><b>UNIT 3</b> Review of the Pathological and principles of management by physiotherapy to the following conditions.</p> <ol style="list-style-type: none"> <li>1. Bronchitis, Asthma, Lung abscess, Bronchietasis, Emphysema, COPD</li> <li>2. Pleurisy and Empyema, Pneumonia</li> <li>3. Pulmonary tuberculosis</li> <li>4. Lung Abscess, Pneumonia,</li> <li>5. Bacterial Disease.</li> <li>6. Rheumatic fever, Carcinoma of respiratory tract.</li> <li>7. Paralysis of diaphragm &amp; vocal cords.</li> <li>8. Chest wall deformities</li> <li>9. Principles of intensive case physiotherapy, Aerosol Therapies, Humidification therapy</li> </ol> <p><b>UNIT 4</b></p> <ol style="list-style-type: none"> <li>1) Review of anatomy and physiology of the cardiovascular system.</li> <li>2) Knowledge of various investigative procedures ( invasive &amp; non invasive) used in the diagnosis of various cardiovascular disorders.</li> <li>3) Review of pathological changes and principle of management by physiotherapy of the</li> </ol>	<p><b>UNIT-II Rehabilitation of Respiratory and Vascular Diseases</b> <i>Anatomy and physiology of Lungs Physiotherapy management of respiratory systems disorders COPD: Bronchial asthma, Emphysema, Bronchitis Pneumonia Bronchiectasis Pleural effusion &amp; Empyema Thoraces Pneumothorax, Cystic Fibrosis, Lung Abscess Pulmonary Rehabilitation</i></p> <p><b>UNIT-III Rehabilitation of Cardio-Vascular Diseases</b> <i>Anatomy and physiology of Heart, Cardiac Rehabilitation, Physiotherapy management of Cardiovascular systems disorders, Cardiac conditions and clinical presentations: Basic anatomy of heart, Coronary circulation and development of heart, Normal Cardiac contraction and relaxation: mechanism and diagnosis. Physiology, clinical Presentation in Ischemic heart disease. Physiology, clinical Presentation Congestive heart failure. Physiology, clinical Presentation peripheral vascular diseases &amp; Deep vein thrombosis</i></p> <p><b>UNIT-IV Rehabilitation of Endocrine System Nutrition, Viral And Bacterial Origin</b> <i>PT Management</i></p> <ol style="list-style-type: none"> <li>1. Endocrine &amp; metabolic diseases. Calcium, Thyroid &amp; parathyroid gland disorders</li> <li>2. Nutritional Diseases Psychiatric Aliments: Maina, Depression, Pchizophrenia, Psyhosis Obsessive Compulsive Edema, Non Articular' Rheumatism Rickets Vitamin Deficiency Syndrome, Myopathy, Diabetic</li> <li>3.</li> <li>4.</li> <li>5.</li> <li>6.</li> <li>7.</li> <li>8.</li> </ol>	
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		<p>following conditions: Thrombosis, Embolism, Burger's diseases, Arteriosclerosis, Thrombophlebitis, Phlebitis, Gangrene, Congestive Cardiac failure, Hypertension, Hypotension, Aneurysm., Congenital heart disease, Cardiac myopathies, ischemic heart disease, endocarditis and pericarditis.</p> <p><b>UNIT 5</b> Review of pathological changes and principle of pre and post operative management by physiotherapy of the following conditions.</p> <ol style="list-style-type: none"> <li>1) Lobectomy, Pneumonectomy, Thoracotomy, Thoracoplasty, Endoscopy &amp; eye role surgeries.</li> <li>2) Corrective surgeries of congenital heart defects, angioplasties, blood vessel grafting, open heart surgeries &amp; heart transplant.</li> <li>3) Principals, modes, indication of mechanical ventilation</li> </ol>	<ol style="list-style-type: none"> <li>9.</li> <li>10.</li> <li>11.</li> <li>12.</li> <li>13.</li> <li>14.</li> <li>15. <i>Neuropathy, Rheumatoid Arthritis and General Cardiac rehabilitation and pulmonary rehabilitation in children and adults.</i></li> <li>16. <i>General and Physiotherapeutic management of Psychiatric patients</i></li> </ol> <p><b>UNIT-V REHABILITATION IN PEDIATRIC MEDICINE</b></p> <ol style="list-style-type: none"> <li>1. <i>Cerebral palsy define and</i></li> <li>2. <i>Prenatal, peri-natal and postnatal physiotherapy care</i></li> <li>3. <i>Muscular Dystrophy: PT Management.</i></li> </ol> <p><i>PT Management of Meningitis, Encephalitis, Hydrocephalus, Spina Bifida, CTEV, CDH</i></p>	
BPT 405 A		<p><b>PRINCIPLES OF ORGANIZATION &amp; ADMINISTRATION OF REHABILITATION UNITS.</b></p> <p><b>UNIT 1</b></p> <ol style="list-style-type: none"> <li>a) Principle or relationship between personnel of rehabilitation unit and other department.</li> <li>b) Principles of relationship between the institution and the guardians of the handicapped or patient.</li> </ol> <p><b>UNIT 2</b> Principle of relationship between head of the unit with various government and semi-government, trusts and juniors. Relationship between a staff and his supervisors equals and juniors. Principle of maintaining department</p>	<p><b>UNIT-1 PRINCIPLES OF ORGANIZATION &amp; ADMINISTRATION OF REHABILITATION UNITS</b></p> <p>Principle or relationship between personnel of rehabilitation unit and other department.</p> <p>Principles of relationship between the institution and the guardians of the handicapped or patient.</p> <p>Principle of relationship between head of the unit with various government and semi-government, trusts and juniors.</p> <p>Relationship between a staff and his supervisors equals and juniors.</p> <p><i>Principle of maintaining department secrecy, handling difficult problems of day to day work.</i></p> <p><i>Definition of policy and how best it is to</i></p>	Syllabus revision

	<p>secrecy, handling difficult problems of day to day work.</p> <p><b>UNIT 3</b></p> <p>Definition of policy and how best it is to be carried out:- Introduction to job analysis of importance. Methods of teaching to handicapped and other workers in rehabilitation Unit. Principles of teaching and guiding student's juniors and senior in O.T. and P.T. training schools and centers.</p> <p><b>UNIT 4</b></p> <p>International classification of disability</p> <p><b>REHABILITATION THERAPY:</b></p> <p>I a) The philosophy and need of rehabilitation. b) Principles of physical Medicine.</p> <p><b>UNIT 5</b></p> <p>II a) Basic principles of Administration and organization philosophy approach, budget, Personnel and space.</p> <p>III. Principles of Orthotics and prosthetics.</p> <p>i) Lower extremity Orthotics. ii) Spinal Orthotics iii) Upper Extremity Orthotic.</p> <p>b) i) Lower Extremity Prosthetics. ii) Upper Extremity Prosthetics</p> <p>IV. Walking and ambulatory Aids</p> <p>i) Wheel Chair ii) Crutches and Canes</p>	<p>be carried out.</p> <p>Introduction to job analysis of importance. Methods of teaching to handicapped and other workers in rehabilitation Unit. Principles of teaching and guiding student's juniors and senior in O.T. and P.T. training schools and centers. International classification of disability</p> <p><b>UNIT II- REHABILITATION THERAPY</b></p> <p>I a) The philosophy and need of rehabilitation. b) Principles of physical Medicine. II a) Basic principles of Administration and organization philosophy approach, budget, b) Personnel and space. c) Vocational Rehabilitation.</p> <p><b>UNIT III -PRINCIPLES OF ORTHOTICS AND PROSTHETICS.</b></p> <p>a) Lower extremity Orthotics. Spinal Orthotics Upper Extremity Orthotic. b) Lower Extremity Prosthetics. Upper Extremity Prosthetics. c) Walking and ambulatory Aids i) Wheel Chair ii) Crutches and Canes</p> <p><b>UNIT IV-PRINCIPAL OF MANAGEMENT OF COMMUNICATION IMPAIRMENT.</b></p> <p>Speech production Communication disorders secondary to brain damage. Evaluating Language Aphasia and its treatment. Dysarthria and its treatment. Non- aphasic Language disorders.</p> <p><b>UNIT-V PRINCIPLES IN</b></p>	
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			<b>MANAGEMENT OF SOCIAL PROBLEMS</b> Social needs of the patient. Rehabilitation center environment. The social worker as a member of the rehabilitation team. Contribution on social work. Community Resources. Principle in Management of Vocational problems and occupational therapy. Disability evaluation and management Architectural barrier	

$$\text{Syllabus recision percent} = \frac{\text{number of courses with syllabus change}}{\text{total courses}} \times 100$$

$$\text{Syllabus recision percent} = \frac{26}{30} \times 100$$

$$\text{Syllabus recision percent} = 86.6\%$$