

**MGU**

# Mahatma Gandhi University

**Programme Project Report**

**BPT**

**2018-19 Session**

**“ Be the Change that you  
wish to see in the world”**

**—Mahatma Gandhi**



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# **PROGRAMME PROJECT REPORT**

**PROGRAMME NAME: BACHELOR OF PHYSIOTHERAPY (BPT)**

## **Institution's Mission and Vision Statement**

*Mission:* To offer quality educational services and transforming lives through knowledge.

*Vision:* The vision of the Promoting Body is set-up a University with a difference. It envisages the Proposed University to come up as a centre of excellence for training of management Professional and shaping and molding of Business and Corporate Leaders of tomorrow.

## **Relevance of Programme to the Institution's Mission and Goals**

- Committing to continuous improvement through industry relations, and assurance of learning across all programmes.
- To fulfil the knowledge and development needs of the individuals, institutions and society in general, by relating, particularly, the courses, to the needs of the employment and economic development of the state on the basis of its natural and human resources.
- To provide an innovative system of University level education in regard to the methods and pace of learning, combination of courses, eligibility for enrolment, age of entry, conduct of examinations and operation of the programme, with a review to promote learning and encourage excellence in all fields of Knowledge.

## **Objective of the Programme**

- Acquire the knowledge of foundation courses like Human Anatomy, Human Physiology, Exercise Therapy and Electrotherapy along with the basic medical subjects which will provide a strong foundation for their practice of Physiotherapy.
- Develop the required skills & techniques of physiotherapy to assess & treat various physical and functional disorders of the human body.
- Acquire the attitude to practice the profession with moral and ethical values.
- Have the interests for providing physiotherapy services to the needy in the community.
- Inculcate the various skills in patient care handling including communication skills, confidence, clinical reasoning, counseling and research. .

## **Nature of Prospective Target Group of Learners**

- Candidates of HSC or any 10+2 passed with a focus on developing their future. Candidates desirous to join service sector will opt for this programme because of the unique methodology of the programme, where students will get real-life workplace experience and learn simultaneously through eLearning support.
- The Duration of BPT courses shall be of 4 Years. The University has continuous system on assessment & evaluation of measurement of learning outcomes by students. The Learning

is assessed by blend of quizzes, assignment, Exercise analysis, report submission, Annual Examination.

## **Programme Appropriateness in Open and Distance Learning mode**

- Appropriateness of Programme to be conducted in Open and Distance Learning mode to acquire specific skills and competence
- During this BPT degree, one can gain a comprehensive knowledge of physiotherapy, including areas such as Orthopedics, neurology, cardiac & Respiratory conditions, OBG and preventative health care.
- Learners will have the ability to effectively work with patients and other Clients with respect to the care of individuals, specific groups, communities or populations.
- The learners learn the theory concepts using eLearning.
- 'Learning through working' model makes them independent at the very beginning of their graduation.

## **Various Modes of Education Delivery**

- *Instructional Design*: Study focuses on the instructional design process on management, communication, technology and learning about organizations. Emphasis is given to the students' application and evaluation of their learning.
- *Self-Learning Material (SLM)*: SLM includes all the instructional design part like graphics oriented content, every unit contains Introduction, Activity, Notes, Summary, Keywords, Review Questions, Further reading & Explanatory figures.
- *e-Learning*: eLearning is a way to provide quick delivery of lessons. e-Learning helps in creating and communicating new training, policies, concepts, and ideas. eLearning enables educators to get a higher degree of coverage to communicate the message in a consistent way which ensures that all learners receive the same type of training with this learning mode.
- *Video Lectures*: It produces authentic learning opportunities for students. It inspires and engages students when incorporated into students centered learning activities through increased students' motivation, enhanced learning experience, and enhanced team working and communication skills.
- *Dynamic Web-Portal*: It provides a resource for locating and navigating to web based resources that support educational endeavours. It helps to keep up-to-date with new content and customize information depending on who is visiting the site.
- *Learning Management System (LMS)*: It create multimedia learning content which is comprehensive and practical, using video, images, audio and text which all serve as great tools in learning new skills or information.
- *Dictionaries of Specialized Subjects*: An insight into the terminology used subjects specific words and word origins. Dictionaries provide extra help with words and symbols to build subject understanding at home and in the classroom.
- *Instructional Simulations*: It is an educational simulation in which simulation of some type of reality (system or environment), which also includes instructional elements that help a learner explore, navigate or obtain more information.

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## **CURRICULUM, DETAILED SYLLABUS & OTHER DETAILS**

The Curriculum, Detailed Syllabus & other details are as under:

Name of Programme : BPT (Bachelor of Physiotherapy)  
 Duration : 4 Years

<b>BPT: Four-Year CBCS Programme</b>		
<b>Programme Structure</b>		
<b>Course No.</b>	<b>Course Title</b>	<b>Course Type</b>
<b>Year I</b>		
BPT11	Anatomy	Core Course
BPT12	Physiology	Core Course
BPT13	Biochemistry	Core Course
BPT14	Biomechanics	Core Course
BPT15	General English	Core Course
BPT16 P	Anatomy Practical	Core Course
BPT17 P	Physiology Practical	Core Course
BPT18P	Biomechanics Practical	Core Course
<b>Year II</b>		
BPT 21	Pathology and Microbiology	Core Course
BPT22	Pharmacology	Core Course
BPT 23	Exercise Therapy	Core Course
BPT24	Electro Therapy	Core Course
BPT25 P	Exercise Therapy- Practical	Core Course
BPT26 P	Electro Therapy- Practical	Core Course
<b>Year III</b>		
BPT31	Clinical Orthopedics	Core Course
BPT32	Research Methodology and Biostatistics	Core Course
BPT33	General Medicine	Core Course

BPT34	Psychology	Core Course
BPT35P	Clinical Orthopedics- Practical	Core Course
	<b>Year IV</b>	
BPT41	Physiotherapy In General Medicine & Cardiothoracic Conditions	Core Course
BPT42	Physiotherapy In Orthopedic Conditions	Core Course
BPT43	Physiotherapy In Neurological Conditions	Core Course
BPT44	Community Based Rehabilitation	Core Course
BPT45	Allied Therapeutics	Core Course
BPT46P	Physiotherapy In General Medicine & Cardiothoracic Conditions- Practical	Core Course
BPT47P	Physiotherapy In Orthopedic Conditions- Practical	Core Course
BPT48P	Physiotherapy In Neurological Conditions- Practical	Core Course

### Faculty Details

S.No.	Name	Designation
1	Mr. Viswendu Kera	HOD
2	Dr. Abhishek Das	Associate Professor
3	Dr. Sania Rizvi Yasha	Asst. Professor
4	Dr Khanam Mohsina Yasmin	Asst. Professor

### Student Support Staff

S.No.	Name	Designation
1	Ms. Pratyakshi Goswami	Incharge-Student Support Division
2	Ms. Anita Das	Sr. Student Counsellor
3	Mr. Nimpal Kalita	Incharge Grievance Cell
4	Mr. Geeti Gogoi	Asst. Incharge Students Activity Cell

## **Student Support Service System**

- The Student Support System aims to help students in a variety of ways, including career development, legal regulation, counseling, psychological support, and special concerns for international students.
- New students receive student handbook, which includes helpful information to acclimate them to the campus and University community.
- Students are surrounded by an extensive support system all the way from orientation through graduation.

## **Procedure for Admission, Curriculum Transaction and Evaluation**

- Counseling session at Campus
- Application form submission along with required documents check list – Online or at Campus
- Eligibility check from the Admission Section
- Documents verification
- Payment of Fees
- Issuance of Enrollment Number & ID Card
- Issuance of SLM & Academic Kit
- Scholarship test

## **Details of Laboratory Support**

- Computer Lab Support to aid students with their studies.
- The lab can help you with your homework, assignments, difficult course content and test preparation.
- Both experienced students from the programme and faculty members themselves volunteer at the lab, which makes it a key resource for any student.
- There is English & Soft Skills lab for students' development.

## **Library Resources**

- We have library at campus which combine more than 10,000+ books for various courses and 400 national and international journals can be accessed by commonly used application.
- MGU partners with Excel Books Pvt. Ltd. a renowned publishing house for digital library access. It is a distinctive group of publishing companies, has a rich history in the book industry.

## Facilities Available to Learners

- *Scholarship*: Through this full tuition scholarships or other substantial awards being offered to the high qualifying students, either in the form of need-based or academic scholarships for university.
- *Book-lending*: An initiative to ensure the academic success of every student funded through alumni donations. This programme provides books for students who could not otherwise afford to purchase them.
- *CD/audio/video cassettes*: Enhance understanding with a teaching guide for using audio cassettes or CDs includes suggested teaching tips that engage learners with auditory and spatial intelligence learning styles.
- *Internet facility*: It opens doorways to a wealth of information, knowledge and educational resources, increasing opportunities for learning in and beyond the classroom.
- *Digital Library*: Provides access to digital repository or digital collection of e-books and e-notes.

## Cost Estimate of the Programme and its Provisions

The Cost estimate for BPT Course on No Profit No Loss comes to Rs. 10000/- Semester.

## Quality Assurance Mechanisms

### 1. Learning Material (Print Media)

- The Self Learning Material is designed with the approach of two-way communication between the learner and content.
- It also involves the learner actively through various experience-based activities and assignments.
- The learner gets clear information about the structure of the programme and course.

### 2. Audio–Video Material

- There is adequate consideration of learners' prior knowledge, skills and attitudes.
- Level and style of language shall be appropriate.

### 3. Online Material

- There is description of credit value of each module or unit in the course.
- There are clear guidelines on academic integrity and netiquette (internet etiquette) expectations regarding lesson activities, discussions and plagiarism.

### 4. Computer-based material

- There is lesson's overview, content and activities, assignments to provide the learning opportunities for learner to master the content.

## **5. Curriculum and Pedagogy**

- The structure of curriculum is defined.
- The content is reliable and justifies the learning outcome(s).
- There is clear definition of intended outcomes of learning, benchmarked to identifiable stages of learning.

## **Programme Outcomes**

- Recognize the role of Physiotherapy in the context of the health needs of the community and National priorities in the health sector.
  - Demonstrate professional and ethical behaviour appropriate to atleast the minimum standard expected for a Physiotherapy Graduate.
  - Ability to acquire knowledge on Basic Medical sciences, Human Movement Sciences, Various Medical Conditions and Surgical Treatments to identify Psychological, Social, Economic, Cultural aspects of diseases and its impact on community.
  - Ability to perform a safe, systematic and appropriate physiotherapy assessment for various conditions.
  - Identify, Define and Deal with problems of professional practice through logical, analytical and critical thinking.
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## PROGRAMME SYLLABUS AND RECOMMENDED BOOKS

Details of Programme Syllabus & List of Recommended books are given below:

Year: First Year

<b>COURSE CODE: BPT11</b>		
<b>COURSE TITLE: Anatomy</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Introduction, Histology, Musculoskeletal Anatomy, Cardiovascular System, Respiratory System, Regional Anatomy, Embryology, Nervous System, Urinary System, Reproductive System, Special Sensory organs and sensations, Digestive systems.	78
<b>SUGGESTED BOOKS</b>		
1	Grays Anatomy	
2.	Textbook of Anatomy by Inderbir Singh	
3.	Human Anatomy by BD Chaurasia.Learning India Private Limited.	

<b>COURSE CODE: BPT12</b>		
<b>COURSE TITLE: Physiology</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Cell and Tissue, Blood, Muscle, Digestive System, Renal System, Sensory System, Cardiovascular system, Respiratory system, Nervous system, Reproductive System, Endocrinology	78
<b>SUGGESTED BOOKS</b>		
1	Textbook of Medical Physiology by GK Paul	

<b>COURSE CODE: BPT13</b>		
<b>COURSE TITLE: Biochemistry</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Carbohydrates, Lipids, Amino acids and proteins, Nucleic acids, Enzymes, Vitamins, Nutrition, pH and buffers	78
<b>SUGGESTED BOOKS</b>		
1	Biochemistry by U. Satyanarayan	

<b>COURSE CODE: BPT14</b>		
<b>COURSE TITLE: Biomechanics</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Introduction to Biomechanics – Terminology – Anthropometry – Skeletal Mechanics – Structure of bones – Composition and properties of bones and relationship to structure – Elastic properties of bones – Characterizing elastic anisotropy - Modeling and Remodeling of bones (Wolfe’s law of bone remodeling)	20
II	Viscoelasticity of soft tissues – Models of viscoelasticity (Maxwell, Voigt, Kelvin) Muscle mechanics – Muscle architecture and mechanics – Muscle fascicles and their arrangement – Fiber architecture in fascicles – Muscle as a fiber reinforced composite – Muscle centroids – Muscle Cross sectional areas (Physiological & Anatomical) – Properties of tendons and passive muscles – Viscoelastic behavior of tendons – Tendon interaction with surrounding tissues – Mechanical properties of passive muscles	20
III	Mechanics of Active muscle: Muscle force production and transmission – Functional relations (Force - length, Force – Velocity curves), History effects in muscle mechanics – Hill’s model (derivation) – Sliding filament theory	20
IV	Muscle coordination – Problem of motor redundancy – Approach to studying muscle force production using optimization (forward and inverse) Exemplary behavior: Dynamics of Reaching – Inverse dynamic modeling	18
	<b>SUGGESTED BOOKS</b>	
1	Principles of Biomechanics by Robert L.Huston, CRC Press	

<b>COURSE CODE: BPT15</b>		
<b>COURSE TITLE: General English</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Comprehension and vocabulary, composition, translation, grammar and usage	78
	<b>SUGGESTED BOOKS</b>	
1	Textbook of Hematology by Ramdas Nayak	

**COURSE CODE: BPT16 P**  
**COURSE TITLE: Anatomy Practical**

**COURSE CODE: BPT17 P**  
**COURSE TITLE: Physiology Practical**

**COURSE CODE: BPT18P**  
**COURSE TITLE: Biochemistry Practical**

Year: Second Year

<b>COURSE CODE: BPT 21</b>		
<b>COURSE TITLE: Pathology and Microbiology</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Histotechnology, Cytology, Museum study, Autopsy techniques	30
II	Genes are DNA – DNA is the genetic material, DNA is a double helix, DNA replication is semiconservative, mutations change the sequence of DNA, a gene codes for a single polypeptide, recombination occurs by physical exchange of DNA, genetic code is triple	48
<b>SUGGESTED BOOKS</b>		

<b>COURSE CODE: BPT22</b>		
<b>COURSE TITLE: Pharmacology</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Concepts of General and Clinical Pharmacology	20
II	Systemic Pharmacology – Drug oriented teaching,	18
III	Drugs Affecting Autonomic Nervous System (ANS)	20
IV	Drugs Affecting Autacoids, Inflammation and Gout	20
<b>SUGGESTED BOOKS</b>		
Basic & Clinical Pharmacology (Basic and Clinical Pharmacology)		

<b>COURSE CODE: BPT 23</b>		
<b>COURSE TITLE: Exercise Therapy</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Introduction to Exercise Therapy, Active & Passive Movements, Mat activities & Functional re-education	18
II	Applied biomechanics, P.N.F, Traction, Manipulation	20
III	Starting Position and derived position, Hydrotherapy, Physiological Effects of massage on various body systems	20
IV	Relaxation, Posture, Gait and human Locomotion	20
<b>SUGGESTED BOOKS</b>		
Principles of exercise therapy By Dena gardener		

<b>COURSE CODE: BPT24</b>		
<b>COURSE TITLE: Electro Therapy</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Basic components of electric current – electrons, protons, neutrons, ions, matter, molecules, Current electricity – static electricity, electric charge, conductors, conduction of electricity, resistance, factors effecting resistance with example in human body, insulation, unit of electric current – ampere, coulomb, volt, ohms law	20
II	Magnetism, theories of magnetism, properties of magnet, Electromagnetic induction, electromagnetic radiation, laws governing radiations – Grouth’s law, cosine law, inverse square law, law of reflection, rarefaction.	20
III	Electrical components – transformer, capacitor, diode, valves, Types of electric current, wave forms, current modulation – continuous, burst, beat, surge. Electric circuit in parallel and series.	20
IV	Safety issues while using electrical equipments – for patients and therapist, Muscle and nerve response to electrical stimulation – polarization, depolarization and propagation of impulse.	18
	<b>SUGGESTED BOOKS</b>	
	Textbook Of Electrotherapy By Jagmohan Singh	

<b>COURSE CODE: BPT25 P</b>		
<b>COURSE TITLE: Exercise Therapy- Practical</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>

<b>COURSE CODE: BPT26 P</b>		
<b>COURSE TITLE: Electro Therapy- Practical</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>

Year: Third Year

<b>COURSE CODE: BPT31</b>		
<b>COURSE TITLE: Clinical Orthopaedics</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Deformities: Congenital and acquired – Pathomechanics, Clinical Features – Treatment – Conservative – Manipulation Bracing, Splinting & Surgical Treatment – Rehabilitation	20
II	Osteoarticular Tuberculosis: Bacteriology – Pathology – Symptomatology – Investigation, Diagnosis – Management – Conservative & Surgical	20
III	Infections: Bacteriology – Pathology – Types – Clinical Features & Management in Acute, Subacute & Chronic. Arthritis:- Study of various types – Infective, Rheumatoid, Degenerative, crystalline Metabolic – Signs & Symptoms – Management	20
IV	Tumors :- Benign & Malignant – Osseous & Soft Tissue – Pathogenic – Histopathology – Investigations – Management / staging / Role of radio & chemo management of secondaries therapy from other primary sites.	18
<b>SUGGESTED BOOKS</b>		
Text book of Operative Orthopaedics Campbell – by Terry Canale		

<b>COURSE CODE: BPT32</b>		
<b>COURSE TITLE: Research Methodology and Biostatistics</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Introduction to Research methodology: Meaning of research, objectives of research, Motivation in research, Types of research & research approaches, Research methods vs methodology, Criteria for good research, Problems encountered by researchers in India. Research problem: Statement of research problem., Statement of purpose and objectives of research problem, Necessity of defining the problem. Research design: Meaning of research design, Need for research design, Features for good design, Different research designs, Basic principles of research design. Sampling Design: Criteria for selecting sampling procedure, Implications for sample design, steps in sampling design, characteristics of good sample design, Different types of sample design. Measurement & scaling techniques: Measurement in research- Measurement scales, sources of error in measurement, Technique of developing measurement tools, Meaning of scaling, its classification., Important scaling techniques.	20

II	<p>Methods of data collection: collection of primary data, collection data through questionnaires &amp; schedules, Difference between questionnaires &amp; schedules. Sampling fundamentals, need for sampling &amp; some fundamental definitions, Important sampling distributions. Processing &amp; analysis of data: Processing operations, problems in processing, Types of analysis, Statistics in research, Measures of central tendency, Dispersion, Asymmetry, relationship. Testing of hypothesis: What is hypothesis? Basic concepts concerning testing of hypothesis, Procedure of hypothesis testing, measuring the power of hypothesis test, Tests of hypothesis, limitations of the tests of hypothesis. Computer technology: Introduction to Computers, computer application in research, computers &amp; researcher.</p>	20
III	<p>Introduction: Meaning, definition, characteristics of statistics., Importance of the study of statistics, Branches of statistics, Statistics and health science including physiotherapy, Parameters and Estimates, Descriptive and inferential statistics, Variables and their types, Measurement scales. Tabulation of Data: Basic principles of graphical representation, Types of diagrams –histograms, frequency polygons, smooth frequency polygon, cumulative frequency curve, Normal probability curve. Measure of Central Tendency: Need for measures of central Tendency, Definition and calculation of mean – ungrouped and grouped, Meaning, interpretation and calculation of median ungrouped and grouped., Meaning and calculation of mode, Comparison of the mean, median and mode, Guidelines for the use of various measures of central tendency.</p>	20
IV	<p>Probability and Standard Distributions: Meaning of probability of standard distribution, The binominal distribution, The normal distribution, Divergence from normality. Sampling techniques: Need for sampling - Criteria for good samples, Application of sampling in community, Procedures of sampling and sampling designs errors, Sampling variation and tests of significance. Analysis of variance &amp; covariance: Analysis of variance (ANOVA), what is ANOVA? Basic principle of ANOVA, ANOVA technique, Analysis of Co variance (ANACOVA)</p>	18
	<p><b>SUGGESTED BOOKS</b></p>	
	<p>ABC of Research Methodology and Applied Biostatistics By MN Parikh, Mahendra N Parikh, and Nithya Gogtay</p>	

<b>COURSE CODE: BPT33</b>		
<b>COURSE TITLE: General Medicine</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Embryology - Development of Heart and Great Vessels Development of Brain and Spinal Cord. Anatomy of Brain and Spinal Cord with their Blood Supply and Venous Drainage	20
II	Liver: Laboratory tests of liver Function. Kidney: Laboratory Tests of Kidney Function. Exocrine and Endocrine function of pancreas	20
III	Central nervous system: Brain and spinal cord Meningitis and Encephalitis, Abscess Tumors, Syphilis .of nervous system, Nutritional and metabolic disorders, epilepsy, vascular diseases. Heart: Rheumatic fever and carditis, Coronary artery diseases Hypertension, Atherosclerosis, Cardiomyopathy, Pericarditis, Specific and non specific arteritis, Congenital Heart diseases. Kidneys: Nephritis, Nephrosis, Kidney, changes in metabolic and collagen vascular diseases, Acute and chronic renal failure.	20
IV	Chemotherapy, Antibiotics and antimicrobials Antimalarial drugs. Antiamoebic drugs. Antihelminthics. Analgesics. Sedatives. Tranquilizers. Antiviral agents.	18
<b>SUGGESTED BOOKS</b>		
Medical Terminology: The Basics By Inc. BarCharts		

<b>COURSE CODE: BPT34</b>		
<b>COURSE TITLE: Psychology</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Introduction, Histology, Musculoskeletal Anatomy, Cardiovascular System, Respiratory System, Regional Anatomy, Embryology, Nervous System, Urinary System, Reproductive System, Special Sensory organs and sensations, Digestive systems.	78
<b>SUGGESTED BOOKS</b>		
Grays Anatomy		

<b>COURSE CODE: BPT35P</b>		
<b>COURSE TITLE: Clinical Orthopaedics- Practical</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>



Year: Fourth Year

<b>COURSE CODE: BPT41</b>		
<b>COURSE TITLE: Physiotherapy In General Medicine &amp; Cardiothoracic Conditions</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Medical And Surgical Management of Disorders of the Cardiopulmonary system, Physiotherapy Management in disorders of the Cardiopulmonary system – I, Physiotherapy Management in disorders of the Cardiovascular system – II	25
II	Physiotherapy Management in disorders of the Cardiovascular system, Research Methodology and Biostatistics, Pedagogy in Physiotherapy Education	25
III	Management, Administration and Ethical Issues, Biomechanics	28
<b>SUGGESTED BOOKS</b>		
	Textbook Of Physiotherapy For Cardio-Respiratory Cardiac Surgery And Thoracic Surgery Conditions By Madhuri	

<b>COURSE CODE: BPT42</b>		
<b>COURSE TITLE: Physiotherapy In Orthopedic Conditions</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Applied anatomy with emphasis on Biomechanics & Kinesiology of Human motion and Work Physiology. Clinical assessment and rationale of Laboratory investigations along with differential diagnoses. Clinical Symptomatology, Pathophysiology and Pathomechanics of musculoskeletal conditions. Physiotherapy management following fractures, dislocations and their complications, Amputations, cumulative trauma disorders and Burns. Physiotherapy management in degenerative disorders and allied conditions. Physiotherapy in post operative management of metabolic, hormonal, neoplastic and infective conditions of bones and joints. Physiotherapy following arthroplasty, implants and soft tissue repairs. Pre & post operative physiotherapy in tendon transfer. Electrical stimulation and biofeedback procedures.	20
II	Kinetic and kinematics analysis for various functional activities. Functional assessment (Hand function, Gait, Posture A.D.L; occupational work). Hand Rehabilitation. Assessment of locomotor impairments, disabilities and disability evaluation. Physiotherapy management of locomotor disorder, principles of medical and surgical aspects, sports psychology and retraining. Neurological complications of locomotor disorders. Analysis and classification of sports and sports specific injuries and its management. Management of sport injuries, sports fitness	18

III	Principles of Injury Prevention Medico legal issues in sports, Sports Psychology, Sports Nutrition and Sports pharmacology. Rehabilitation of paediatric musculoskeletal disorders. Orthopaedic implants-designs, materials, indications, post-operative assessment and training. External aids, appliances, adaptive self-help devices; prescription, biomechanical compatibility, check-out and training. Manual therapy: soft tissue manipulations and mobilization, neural mobilization, acupuncture. (Cyriax, Maitland, Butler, McKenzie, Kaltenborn, Mulligan). Pilates-school of thought, Chiropractic school of thought, Osteopathic school of thought. Myofascial Release technique and Muscle Energy technique	20
IV	Joint manipulation – peripheral joints and vertebral joints. Neuromuscular Taping Techniques. Electro diagnosis: Electromyography and evoked potential studies. Community based rehabilitation in musculoskeletal disorders. Recent Advances in Musculoskeletal Disorders and Sports Physiotherapy.	20
	<b>SUGGESTED BOOKS</b>	
	A Simple Guide To Writer's Cramp (Hand Dystonia), Diagnosis, Treatment And Related Conditions (A Simple Guide to Medical Conditions) By Kenneth Kee	

<b>COURSE CODE:</b> BPT43		
<b>COURSE TITLE:</b> Physiotherapy In Neurological Conditions		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Anatomy and Physiology of Nervous System. Normal sequential behavioral and Physiological changes throughout the developmental arc. Neurophysiology of balance, coordination and locomotion. Clinical symptomatology and Pathophysiology of the neurological disorders. Principles of clinical neuro diagnosis and investigation. 6. Various Evaluation Scales and Assessment methods used in neurological rehabilitation. Electrodiagnosis: a. Neurophysiology of Nerve conduction studies and Electromyography. b. Instrumentation of Electrical stimulator, EMG, SFEMG, NCS (Nerve Conduction Studies). c. Electrical study of reflexes ( H- reflex, Axon reflex, F-response, Blink reflex, Jaw jerk, Tonic Vibration Reflex). d. Repetitive nerve stimulation. e. Evoked potentials (SSEP, MEP, BAERA, and VER). f. Interpretation of neurophysiologic responses in Neuropathy, myopathy and neuromuscular disorders. Evaluation of A.N.S dysfunction with reference to psycho-physiological testing. Biofeedback training. Neuro-psychological functions. Perception testing and training.	18

II	Theories of motor control and theories of motor learning, its application in hysiotherapy. Common facilitatory and inhibitory techniques. Treatment approaches in neurological rehabilitation: Bobath, NDT, SI, Brunnstrom, Roods, PNF, Vojta, MRP, MFR. Musculoskeletal treatment concept applied to neurology: Adverse neural tissue tension tests in upper limb and lower limb. Pathophysiology and Management of tonal abnormalities ( Spasticity, Rigidity, Hypotonia, and Dystonia). Medical and Physiotherapy management following Cerebrovascular accidents. Traumatic Brain Injury. ( ICU management, Coma stimulation, Restoration of motor control, Rehabilitation and community integration). Traumatic spinal cord injuries. ( ICU management, Coma stimulation, Restoration of motor control, Rehabilitation and community integration). Physical therapy management of demyelinating, inflammatory, infectious, degenerative and metabolic diseases of the nervous system.	20
III	Physical therapy management of Motor neuron diseases, neuromuscular junction disorders, Brain tumor, and Neuro cutaneous disorders. Diseases of spinal cord, peripheral nerves and cranial nerves. Physiotherapy management for neuromuscular disorders. Paediatric neurology (Cerebral Palsy, Developmental disorders, Neuropsychiatric disorders, Cerebral & Craniovertebral anomalies & metabolic disorders of nervous system). Cognitive disorders and its rehabilitation. Oromotor rehabilitation. Vestibular disorders and its rehabilitation. Bladder and Bowel dysfunction and its rehabilitation. Assessment and management of various neurological gaits.	20
IV	Rehabilitation following disorders of Special Senses, Speech. Language and Perception. Associated functional disturbances of higher functions and their testing and training. Application of Functional electrical stimulation and Bio-feedback in neurological rehabilitation. Learning skills, A.D.L and functional activities. Aids and appliances in neurological disorders. Prescriptions, testing and training. Basic knowledge of drugs used for neurological conditions. Assessment of fitness and exercise prescription for special neurological population – Stroke, Paraplegia, TBI, Multiple Sclerosis, MND, Parkinsonism, & Ataxia. Community based rehabilitation for neurological dysfunction. Disability evaluation and management. Recent Advances in Neurological Rehabilitation.	20
	<b>SUGGESTED BOOKS</b>	
	Physical Management for Neurological Conditions: [Formerly Physical Management in Neurological Rehabilitation] (Physiotherapy Essentials) By Stokes	

**COURSE CODE:** BPT44

**COURSE TITLE:** Community Based Rehabilitation

<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Principles and Methods of CBR Approach & Management of CBR Programme, Identification and Rehabilitation of persons with Mental Illness, Epilepsy and other disabilities.	18
II	Identification and Rehabilitation of persons with Visual Impairment	20
III	Socio-Economic Rehabilitation of persons with Hearing Impairment	20
IV	Identification and Rehabilitation of persons with Mental Retardation, Identification and Rehabilitation of persons with Locomotor Disability	20
	<b>SUGGESTED BOOKS</b>	
	Essentials of Community-based Rehabilitation By Satya Bhushan Nagar	

<b>COURSE CODE: BPT44</b>		
<b>COURSE TITLE: Allied Therapeutics</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
I	Introduction to Occupational Therapy, Principles of Occupational Therapy, Human Structure and Function in Occupational Therapy, Therapeutic Media in Occupational Therapy, Therapeutic Modalities in Occupational Therapy, Health Care Management in Occupational Therapy, Pathophysiology in Occupational Therapy, Mental Health in Occupational Therapy, Physical Function in Occupational Therapy	28
II	Anatomy and Physiology of the Organs of Language, Introduction to Audiology, Neurological Basis of Language, Linguistics, Phonetics and Phonology, Introduction to Language Disorders, Speech Therapy Intervention in Language Development Disorders, Aphasia, Speech Articulation Disorders, Deafness, Dyslexias and dysgraphias, Stuttering, Alternative Systems of Communication, Intervention in autism and Psychopathological Disorders, Intervention in Basic Language, Psychomotor Development, New Educational Methodologies for Children with Auditory Alterations, Technology Applied to Speech Processing, Speech Therapy Intervention in Cochlear Implantation	20
III	Acupuncture: Definitions, Principles, Techniques, Physiological and Therapeutic effects, Indications and Contra indications. Introduction to Naturotherapy – Principles of application, Indications and Uses. Magnetotherapy - Principles of application, Indications and Uses. Role of the above Alternative Medicine approaches in comprehensive rehabilitation of patients.	30
	<b>SUGGESTED BOOKS</b>	
	Essentials of Community-based Rehabilitation By Satya Bhushan Nagar	

<b>COURSE CODE: BPT46P</b>		
<b>COURSE TITLE: Physiotherapy In General Medicine &amp; Cardiothoracic Conditions- Practical</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>

<b>COURSE CODE: BPT47P</b>		
<b>COURSE TITLE: Physiotherapy In Orthopaedic Conditions- Practical</b>		
<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>

**COURSE CODE:** BPT48P

**COURSE TITLE:** Physiotherapy In Neurological Conditions- Practical

<b>UNITS</b>	<b>CONTENTS</b>	<b>Hours: 78</b>
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