

2022-23



Detailed Syllabus for Bachelor of Physiotherapy(BPT)

DEPARTMENT OF PHYSIOTHERAPY

UNIVERSITY OF ENGINEERING AND MANAGEMENT, JAIPUR

PREAMBLE

Physiotherapy (PT) is a Movement Science with an established theoretical and scientific base and widespread clinical applications in the Prevention, Restoration & Rehabilitation, Maintenance and Promotion of optimal physical function. Physiotherapists diagnose and manage movement dysfunction and enhance physical and functional abilities. This physical dysfunction may be the sequelae of involvement of any of the systems like Musculoskeletal, Neurological, Cardiovascular, Respiratory, or other body systems.

These practitioners contribute to society and the profession through practice, teaching, administration, and the discovery and application of new knowledge about physiotherapy experiences of sufficient excellence and breadth by research to allow the acquisition and application of essential knowledge, skills, and behaviors as applied to the practice of physiotherapy.

Physiotherapists (PT) are autonomous, effective, and compassionate professionals, who practice collaboratively in a variety of healthcare set ups such as neonatal to geriatric, from critical care to community fitness to sports training. Emerging graduate and post graduate students are required to demonstrate a substantial knowledge base, possess skills related to Physiotherapy practices, possess high emotional quotient to address family health and meet community responsibilities, demonstrate gender sensitivity and sociocultural relevant competence. They should be aware of legal issues governing professional practice and follow evidence-based clinical practices.

INTRODUCTION

Physiotherapy is a branch of modern medical science which includes examination, assessment, interpretation, physical diagnosis, planning and execution of treatment and advice to any person for the purpose of preventing, correcting, alleviating and limiting dysfunction, acute and chronic bodily malfunction including life saving measures via chest physiotherapy in the intensive care unit, curing physical disorders or disability, promoting physical fitness, facilitating healing and pain relief and treatment of physical and psychological disorders through modulating psychological and physical response using physical agents, activities and devices including exercise, mobilization, manipulations, therapeutic ultrasound, electrical and thermal agents and electrotherapy for diagnosis, treatment and prevention.

Physiotherapist' is a qualified professional who has acquired all the above-mentioned knowledge and skills for entry into practice after being awarded a bachelor's degree in the subject of "Physiotherapy" from a recognized institute affiliated to the University conducting a fulltime course not less than four years and six months of internship.

OBJECTIVES OF THE BACHELOR'S IN PHYSIOTHERAPY (BPT) PROGRAM

This program is formulated to enable students to gain adequate knowledge, skills and clinical hands-on experience leading to an ability to establish independent professional practice. The overall content of the curriculum focuses on learning experiences and clinical education experiences for each student that encompasses the following:

1. Ethical, evidence-based, efficient Physiotherapy treatment of adult as well as pediatric patients/clients with an array of conditions (e.g., musculoskeletal, neuromuscular, cardiovascular/pulmonary, integumentary etc) across the lifespan and the continuum of care, to all people irrespective of gender, caste, nation, states and territories, region, minority groups or other groups.

2. Ability to prevent movement dysfunction or maintain/restore optimal function and quality of life in individuals with movement disorders.
3. Ability to operate as independent practitioners, as well as members of health service provider teams, act as first contact practitioners, from whom patients/clients may seek direct services without referral from another health care professional.
4. Ability to promote the health and wellbeing of individuals and the public/society, emphasizing the importance of physical activity and exercise.
5. Prevent impairments, activity limitations, participatory restrictions, and disabilities in individuals at risk of altered movement behaviors due to health factors, socio-economic stressors, environmental factors and lifestyle factors.
6. Provide interventions/treatment to restore integrity of body systems essential for movement, maximize function and recuperation, minimize incapacity, and enhance the quality of life, independent living and workability in individuals and groups of individuals with altered movement behaviors resulting from impairments, activity limitations, participatory restrictions, and disabilities.
7. Ability to modify environmental, home and work access and barriers to ensure full participation in one is normal and expected societal roles.
8. Become an essential part of the health and community/welfare services delivery systems, practice independently of other health care/service providers and also within interdisciplinary rehabilitation/habilitation programs, independent professional practice in self-employed set up or employment at the multiple settings such as hospitals, nursing homes, institutions catering services to specific conditions (like paraplegic /geriatric homes), primary as well as rural & urban health care set up, community health , domiciliary practice like residential areas, education& research centers, fitness /wellness centers like health clubs, occupational health centers, Schools including special schools, geriatric care units, and others.

1. Ability to carry out research projects

PROGRAM OUTCOMES (PO)

The program learning outcomes relating to BPT degree program are summarized below:

PO1	To demonstrate behavioral skills and humanitarian approach while communicating with patients, relatives, society at large and co-professionals
PO2	To develop healthy Physiotherapist – Patient relationship
PO3	To demonstrate and relate moral, ethical values and legal aspects concerned with Physiotherapy management
PO4	To demonstrate academic skills and knowledge related to understanding the structural and functional of human body and applied anatomy, physiology in physiotherapy practice
PO5	To apply and outline pathology of medical conditions in context with Physiotherapy, interpret & use medical communication.
PO6	To apply knowledge of biomechanics of human movement in musculoskeletal, neurological, and cardio-respiratory conditions in planning, recommending, and executing Physiotherapy management.
PO7	To outline and implement Physiotherapy management by co-relating assessment and examination skills of clinical subjects like Orthopedics, General Surgery, Medicine, Neurology, Pediatrics, Dermatology & Gynecology & Obstetrics, Community Medicine and Sociology
PO8	To demonstrate skill in maneuvers of passive movements, massage, stretching, strengthening, and various manual therapy techniques. Students will integrate Physiotherapy evaluation skills including electro diagnosis on patients to arrive at a Functional/ Physical Diagnosis in musculoskeletal, neurological, cardiovascular, and pulmonary conditions.

PROGRAM SPECIFIC OBJECTIVES

PSO1	Employability: The students can work in the following: Defense Ministry of India, in central and state level governmental hospitals, private multi-specialty hospitals and academic institutes, in private companies like MNCs, BSNL, Amazon, Infosys etc.
PSO2	Environment and Sustainability: Student can work and sustain in his field in country and as well as abroad it has vast field across the globe.
PSO3	Modern Tool Usage: The student would be able to use different physiotherapeutic modalities as well as techniques (MFR, TAPING, CUPPING, NEEDLING, NDT, PNF) etc.
PSO4	Lifelong learning: The student would be able to deal with patient, take history of the patient, differentially diagnose the patient, and prescribe the treatment accordingly.
PSO5	Entrepreneurship: The student would be able to set up his/her own clinic or joint ventures.
PSO6	Understand basic life sciences: The student would be able to know anatomical, physiological, and biomechanical working of human body.
PSO7	Skill development: The student would be able to perform various manual techniques to treat the patients.

BACHELOR IN PHYSIOTHERAPY III YEAR(1 YEAR DURATION)

S.NO.	SUBJECT CODE	SUBJECT	CREDIT HOURS
1.	CLR301	Clinical Rehabilitation-I	4
2.	CLR391	Clinical Rehabilitation-I Practical	2
3.	CLO301	Clinical Orthopedics	4
4.	CLO391	Clinical Orthopedics Practical	2
5.	MEP301	Medicine including Pediatrics	4
6.	MEP391	Medicine including Pediatrics Practical	2
7.	NNS301	Neurology & Neurosurgery	4
8.	NNS391	Neurology & Neurosurgery Practical	2
9.	SOG301	Surgery including Obstetrics & Gynecology	4
10.	SOG391	Surgery including Obstetrics & Gynecology Practical	2
11.	SOP301	Sociology & Psychology	4
12.	RMB301	Research Methodology & Biostatistics	2
		TOTAL	36

SUBJECT: CLINICAL REHABILITATION-I

SUBJECT CODE: CLR301

CREDITS:4

Course Objectives:

This course introduces the student to education and prevention from various disabilities.

The students will be able to learn about clinical rehabilitation protocol.

Course Outcomes (CO):

After taking this course a student will:

CO1: Be able to understand the phase of disability process, explanation of its aims and principles.

CO2: Be able to find the phase of disability process, explanation of its aims and principles.

CO3: Be able to understand legislations for rehabilitation services for the disabled and P.W.D. acts & recent amendments.

CO4: Be able to know the contribution of social workers towards rehabilitation.

CO5: Be able to describe the principles of Management at the Medical Intensive Care Unit.

CO6: Acquire knowledge in vocational evaluation & goals for disabled, role of vocational counselor.

CO7: Be able to describe behavioral problems in the disabled, and its principle of management.

CO8: Be able to describe socio-economic rehabilitation: Outline of social implications of disability for the individual and for the community pre-vocational evaluation & role of V.C.GOV. & NGO.

CO9: Discuss methods and team involvement in pre-vocational evaluation and training.

Mapping of Course Outcomes (CO) and Program Outcomes (PO):

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓		✓					
CO2	✓		✓					
CO3	✓		✓					
CO4	✓		✓					
CO5	✓	✓	✓				✓	✓
CO6	✓	✓	✓				✓	✓
CO7	✓	✓	✓				✓	✓
CO8	✓	✓	✓				✓	✓
CO9	✓	✓	✓				✓	✓

Course Contents:

S. No.	Topics	Hou rs
1	Introduction to rehabilitation medicine. Definition concerned in the phase of disability process, explanation of its aims and Principles, Scope of rehabilitation. Definition concerned with the causes of impairment functional limitation and disability. Disability prevention, limitation, and rehabilitation. Present rehabilitation services.	20H
2	Legislations for rehabilitation services for the disabled & P.W.D acts & recent amendments. Legislations for rehabilitation services for the disabled and P.W.D. acts & recent amendments. Rehabilitation team and its members, their role. Community & rehabilitation including C.B.R., Advantages of C.B.R over I.B.R. Contribution of social worker towards rehabilitation. Vocational evaluation & goals for disabled, role of vocational counselor.	30H
3	Rural rehabilitation incorporated with primary health center. Principles of communication & its problems & management. Behavioral problems in the disabled its principle of management. Architectural barriers possible modifications in relation to different disabled conditions. Achieving functional independence.	20H
4	Occupational rehabilitation. Concepts in geriatric rehabilitation. Disability evaluation. Visual disability: definition and classification, mobility techniques, communication skills, prevention of blindness. Socio-economic rehabilitation: -Outline of social implications of disability for the individual and for the community pre- vocational evaluation & role of Vocational center govt. & NGO. Discuss methods and team involvement in pre-vocational evaluation and training.	30H
5	Ergonomics: Injuries due to ergonomic alteration Ergonomic evaluation of workplace-mechanical stresses due to sedentary table work executives, clerk, inappropriate seating arrangement- vehicle drivers; constant standing- watchman- Defense forces, surgeon; Over-exertion in laborers, common accidents. Role of P.T.- in Industrial setup & Stress management-relaxation modes psychological hazards- e.g.-executives, monotonicity & dissatisfaction in job, anxiety of work completion with quality	10H

Suggested Reading:

1. Textbook of Clinical Rehabilitation- S. Sunder

SUBJECT:

CLINICAL ORTHOPEDICS

SUBJECT CODE: CLO301

CREDITS: 4

Course Objectives:

This course introduces and enables the student to understand orthopedic conditions which commonly cause disability and their medical and surgical management. The students will be able to integrate the knowledge gained in clinical orthopedics with skills gained to apply these in clinical situations of dysfunction and Musculo-skeletal pathology.

Course Outcomes (CO):

After taking this course a student will:

CO1: Understand the basic orthopedic conditions which commonly cause disability and their management.

CO2: Know the aetiology, Classification, Pathology, Clinical Features, Relevant Investigations, Complications, Surgical & Non-Surgical Management of various Orthopedic Conditions.

Mapping of Course Outcomes (CO) and Program Outcomes (PO):

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1		✓					✓	✓
CO2		✓				✓	✓	✓

Course Contents:

S. No.	Topics	Hours
Unit 1	Fractures and dislocations of upper limb, lower limb, and spine	5 H
Unit 2	Deformities: Common congenital and acquired deformities of foot, knee, hip, shoulder, elbow, and wrist including hand and spine. Infective conditions and lesions of joints and bones. Osteomyelitis, tuberculosis, pyogenic infection., T.B. Joints	10 H
Unit 3	Arthritis – Osteoarthritis, Rheumatoid arthritis, cervical and lumbar spondylosis, Ankylosing spondylitis.	5 H
Unit 4	Soft tissue involvement – Sprains, strains, Tenosynovitis, and contractures.	5 H
Unit 5	Operative Procedures, Amputation Common sites, causes & management, Arthroplasty of joints, joint replacement (total and partial), Osteotomy.	5 H
Unit 6	Bone and joint tumors- classification, clinical features and management of benign and malignant bone and joint tumors.	5 H
Unit 7	Peripheral nerve injuries-their management.	8 H
Unit 8	Trauma and trauma care.	8 H
Unit 9	Reconstructive surgeries for rehabilitation of Poliomyelitis, Leprosy, crush injuries	9 H
Unit 10	Principle of Tendon transfer and its procedure.	5 H
Unit 11	Pediatrics Musculo-skeletal conditions and management	10 H
Unit 12	Neck and Low back ache, Sciatica, PIVD, brachial neuralgia etc.	15 H
Unit 13	Sports injuries and its management.	10 H
Unit 14	Radiological examination.	5 H

SUBJECT:

CLINICAL ORTHOPEDICS PRACTICAL
SUBJECT CODE: CLO391

CREDITS:2

PRACTICAL

1. Case demonstration of various conditions, Exposure to various orthopedics techniques & procedures.
2. General viva.

Suggested Reading:**Textbook:**

1. Textbook of Orthopedics- Maheswari.
2. Textbook of Orthopedics and Traumatology- M.N. Natarajan
3. Apley's textbook of Orthopedics

References:

1. Outline of Fractures – John Crawford Adams.
2. Outline of Orthopedics- John Crawford Adams.

SUBJECT:
MEDICINE INCLUDING PEDIATRICS
SUBJECT CODE: MEP301
CREDITS:4

Course Objectives:

This course introduces the student to education and training in medicine, pediatric and psychiatric that will have transferability to other settings. The students will be able to describe neuromuscular, musculoskeletal, cardio-vascular & pulmonary conditions related to immunological conditions, nutritional deficiencies, infectious diseases, & genetically transmitted conditions.

Course Outcomes (CO):

After taking this course a student will:

CO1: Be able to describe Etiology, Pathophysiology, Signs & Symptoms & Management of the various Endocrinal, Metabolic, Geriatric & Nutrition Deficiency conditions

CO2: Be able to describe Etiology, Pathophysiology, Signs & Symptoms, Clinical Evaluation & Management of the various Rheumatological Cardiovascular, Respiratory & Neurological Conditions

CO3: Acquire skill of clinical examination of Musculoskeletal, Pulmonary, Cardiovascular & Neurological System.

CO4: Be able to interpret auscultation findings with special emphasis to pulmonary system, Chest X-ray, Blood gas analysis, P.F.T. findings, Blood studies done for Neurological & Rheumatological conditions

CO5: Be able to describe the principles of Management at the Medical Intensive Care Unit.

CO6: Acquire knowledge in brief about intra-uterine development of the fetus.

CO7: Be able to describe normal development & growth of a child, importance of Immunization & breastfeeding.

CO8: Be able to describe neuromuscular, musculoskeletal, cardio-vascular & pulmonary conditions related to immunological conditions, nutritional deficiencies, infectious diseases, & genetically transmitted conditions.

CO9: Acquire skill of clinical examination of a neonate /child with respect to neurological, musculoskeletal & respiratory function.

Mapping of Course Outcomes (CO) and Program Outcomes (PO):

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓	✓			✓			
CO2	✓	✓			✓			
CO3	✓	✓		✓				
CO4	✓	✓		✓				
CO5	✓	✓					✓	✓
CO6	✓	✓					✓	✓
CO7	✓	✓					✓	✓
CO8	✓	✓					✓	✓
CO9	✓	✓					✓	✓

Course Contents:

S. No.	Topics	Hours
1	Unit I (Medicine)	20 H
	Introducing of Medicine.	
	Diseases of Respiratory System, Physiology, clinical presentation in relation to Chronic obstructive pulmonary disease, Bronchial asthma Pneumonia Bronchiectasis, Pleural effusion & Empyema thoracis Pneumothorax	
	Diseases of Kidney, Physiology, clinical presentation in relation to ARF CRF	
	Hematological Diseases. Anemia Physiology, clinical presentation in relation to Hemophilia	
	Endocrine & Metabolic Diseases. Vit. D & Calcium metabolism & parathyroid gland disorders	
2	Unit II	28 H
	Nutritional Diseases Physiology, clinical presentation in relation to Obesity	
	Connective Tissue Diseases, Physiology, clinical presentation in relation to Rheumatoid arthritis Gout & other connective tissue disorders	
	Infectious Diseases: Tetanus Leprosy HIV & AIDS	
	Psychiatric Disorders: Classifications, Causes, Clinical manifestations, and treatment methods used in Psychiatry.	
	Cardiac Conditions a) Basic anatomy of heart, Coronary circulation, and development of heart b) Normal cardiac contraction and relaxation: mechanism and diagnosis. c) Physiology, clinical presentation in ischemic heart disease. d) Physiology, clinical presentation in Congestive heart failure. e) Physiology, clinical presentation in Peripheral Vascular disease & Deep vein thrombosis.	

3	Unit III (Pediatrics)	12 H
	Describe growth and development of child from birth to 12 year including physical, social, adaptive development.	
	List the maternal and neonatal factors contributing to high-risk pregnancy. The neonate: inherited diseases.	
	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.	
	Unit IV	20 H
4	Cerebral palsy: Define and briefly outline etiology of prenatal, per-natal, and postnatal causes, briefly mention pathogenesis, types of cerebral palsy (Classification), findings on examination, general examination of C.N.S, Musculoskeletal and respiratory system.	
	Briefly outline associated defects: Mental retardation, microcephaly, blindness, hearing and speech impairment, squint, and convulsions.	
	Prevention: Appropriate management of high-risk pregnancies, prevention of neonatal and postnatal infections, metabolic problems.	
	Muscular Dystrophy: Outline various forms, modes of inheritance and clinical manifestation physical finding in relation to disabilities progression of various forms and prognosis. Describe treatment goals in forms which are and are not fatal.	
	Unit V	20 H
5	Spina bifida, meningomyelocele: Outline development, clinical features lower limbs, bladder and bowel control, complications UTI & hydrocephalus.	
	Still's disease: Classification, pathology in brief, physical findings, course & prognosis. Outline treatment, prevention, and correction of	

	deformity.	
	Acute C.N.S. infections: Classify (Bacterial and viral) and outline the acute illness & Physiology, clinical presentation.	
	Normal diet of new-born and child: List dietary calorie, fat, protein, mineral and vitamin requirement in a normal child and in a child with malnutrition.	
	Lung infections: Physiology, clinical presentation in relation to bronchiectasis, lung abscess and bronchial asthma, cystic fibrosis	
	Intensive pediatric care & Physiology, clinical presentation.	

Suggested Reading:

Textbooks:

1. Clinical Medicine: P. J. Mehta
2. Golwalla- Medicine for students
3. API – Text book of Medicine- 5 th edition
4. Essentials of Paediatrics- by O. P. Ghai – Inter Print publications

Reference:

1. Principles & Practice of Medicine – 16th edn – by Davidson

SUBJECT:

NEUROLOGY & NEUROSURGERY

SUBJECT CODE: NNS301

CREDITS:4

Course Objectives:

The course enables the students to understand etiology, pathophysiology, signs and symptoms and management of the various neurological and neurosurgical conditions.

Course Outcomes (CO):

After taking this course a student will:

CO1: Understand the basic neurological conditions which commonly cause disability and their management.

CO2: Know the aetiology, Classification, Pathology, Clinical Features, Relevant Investigations, Complications, Surgical & Non-Surgical Management of various Neurological Conditions.

Mapping of Course Outcomes (CO) and Program Outcomes (PO):

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓	✓					✓	✓
CO2	✓	✓			✓		✓	✓

Course Contents:

S. No.	Topics	Hours
Neurology		
1	Unit I	10 H
	General principles of neuroanatomy and neurophysiology.	
	Diagnosis of Cerebral vascular accident	
	Assessment of Cerebral vascular accident	
	Principles of management of cerebral vascular accident	
2	Unit II	25H
	Acute infection of CNS- Pyogenic meningitis and sequelae.	
	TB infection of CNS	
	Polio	
	Parkinson's Disease	
	Extra-pyramidal disorder: Parkinsonism, Basal Ganglia, Atherosclerosis, Chorea, Dystonia	
	Cerebral palsy	
	Seizure disorders	
3	Unit III	20H
	MS & other demyelinating disease	
	ALS (amyotrophic lateral sclerosis) and other Motor neuron diseases	
	Diseases of Peripheral Nerves, cranial nerves, Myasthenia Gravis	
	Diseases of muscles (polymyositis, muscular dystrophy)	
	Cervical and lumbar spondylosis and disc prolapsed	
Neurosurgery		
4	Unit IV	25H
	Head Injury – Causes and mechanism of head injury subdural, epidural, and intracranial bleeding, types of neurological disorders following head injury and their complete management.	
	Tumors of neurological system management	
	Cranial & Spinal cord lesion management including Paraplegia, hemiplegia, quadriplegia management.	
	Unit IV	20H
5	Neurogenic bladder-Classification-management	
	Pediatric condition-meningocele, meningocele etc.	
	Peripheral nerve lesions, management	
	Surgical management of brain disease and CVA Neuro-surgical Intensive care	

Suggested Reading:

Textbooks:

1. Brain Aids to the Examination of the Peripheral Nervous System, 4th Revised ed, London, Saunders
2. Geraint Fuller, Neurological Examination Made Easy
3. Illustrated Neurology & Neurosurgery: Lindsay.
4. Textbook of Neurology- Victor Adams
4. Roger Barker, S Barasi, Neuroscience briefly
5. Michael Donaghy, Brain's Diseases of the Nervous System

References:

1. Kumar. Neurosurgery review.1st ed, New Delhi, Jaypee Brothers Medical Publishers(P) Ltd.2009
2. Ahuja. A short textbook of psychiatry, 6 ed, New Delhi, Jaypee Brothers Medical Publishers(P) Ltd.2009

SUBJECT: SURGERY INCLUDING OBSTETRICS & GYNAECOLOGY

SUBJECT CODE: SOG301

CREDITS:4

Course Objectives:

The course enables the students to understand the causes of disorders of different systems of body and enable them to understand the principles behind the management of disorders related to above said areas.

Course Outcomes (CO):

After taking this course a student will:

CO1: Demonstrate a general understanding of the diseases that therapists would encounter in their practice. Understand the etiology and pathology, the patient's symptoms, and the resultant functional disability. Understand the limitations imposed by the diseases on any therapy.

CO2: Elaborate broad outline of goals of pharmacological and surgical therapy imparted in those diseases in which physical therapy will be an important component of overall management.

CO3: Understand the anatomy, physiology and various conditions in Obstetrics and Gynecological conditions relevant to Physiotherapy.

CO4: Assess and provide physiotherapeutic techniques in Obstetrics and Gynecological conditions for relief of pain, relaxation, conditioning, and posture.

Mapping of Course Outcomes (CO) and Program Outcomes (PO):

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓	✓			✓			
CO2	✓	✓			✓			
CO3				✓	✓		✓	✓
CO4				✓	✓		✓	✓

Course Contents:

S. No.	Topics	Hours
	Unit I (General Surgery)	18 H
1	Principles of Preoperative management of surgical patients.	
	Principles of postoperative management of surgical patients	
	Common pre complications	
	Common post-operative complications	
	Shock – Definition, types, clinical features, pathology, and management	
	Unit II	15H
2	Hemorrhage- common sites, complication, clinical features, and management.	
	Management of hemorrhage	
	Surgical intensive care	
	Description of events frequently accompanying in general anesthesia, and	
	Blood transfusion	
	Physiological response of the body to surgery	
	Unit III	22H
3	Abdominal surgery: Incisions, complications, and management of various abdominal surgeries	
	Wounds and wound infections, Sinuses, and ulcers	
	Burns: Degrees of burns and, management and reconstructive surgery following burns and complications of Burns	
	Unit IV (Cardiothoracic Surgery)	
4	Incisions for cardiothoracic surgery – General pre- and post-operative management of cardio-thoracic surgery – Various surgical procedures for various chest and cardiac conditions/diseases	15H
	Unit V (OBS and GYN)	15H
5	Anatomy of pelvic organs mechanism & physiology of pelvic floor sphincter muscles.	
	Pregnancy – stage of pregnancy – Labour – stage of Labour – delivery	
	Menopause effects in emotions and musculo-skeletal system & common gynecological disorders	
	Unit VI (Plastic Surgery)	
	Principles of cineplasty, tendon transplant, cosmetic surgery, types of grafts, surgery of hand with emphasis on management of traumatic and leprosy	15H

Suggested Readings:

1. T.B. of surgery by S. Das
2. Clinical & Operative surgery by S. Das
3. Bailey & Love's short practice of Surgery.
- 4.. Nicki R. Colledge, Brian R. Walker, Stuart H. Ralston. Davidson's Principles and Practice of Medicine. 21st ed Churchill Livingstone, 2010
5. Anthony S. Fauci, Eugene Braunwald, Dennis L. Kasper, Stephen L. Hauser, Dan L. Longo, J. Larry Jameson, Joseph Loscalzo. Harrison's Principles of Internal Medicine, 17th ed. McGraw Hill Professional, 2008
6. Michael Swash, Michael Glynn. Hutchinson's Clinical Methods. An Integrated Approach to Clinical Practice. Saunders, 2007.
7. Textbook of Gynecology – by Dutta – New Central Book Agency
8. Textbook of Obstetrics – by Dutta – New Central Book Agency

SUBJECT:

SOCIOLOGY AND PSYCHOLOGY

SUBJECT CODE: SOP301

CREDITS:4

Course Objectives:

The course involves a description of some psychological parameters especially as they relate to physiotherapeutic practice and it will introduce students to the basic sociological concepts, principles and social process, social institutions and the various social factors affecting the family in rural and urban communities will be studied.

Course Outcomes (CO):

After taking this course a student will:

CO1: Apply some general psychological principles when dealing with patients.

CO2: Demonstrate and understanding of the role of sociocultural factors on health and disease and related to physiotherapy.

CO3: Recognize and help with the psychological factors involved in disability, pain, disfigurement, unconscious patients, chronic illness, death, bereavement, and medical surgical patients/conditions.

CO4: Understand the elementary principles of behavior for applying in the therapeutic environment.

CO5: Understand the concept of stress and its relationship to health, sickness, and one's profession.

Mapping of Course Outcomes (CO) and Program Outcomes (PO):

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓	✓	✓					
CO2	✓	✓	✓					
CO3	✓	✓	✓				✓	✓
CO4	✓	✓	✓				✓	✓
CO5	✓	✓	✓				✓	✓

Course Contents:

S. No.	Topics	Hours
Sociology		
1	Introduction: Meaning- Definition and scope of sociology It's related to Anthropology, Psychology, Social Psychology. Methods of Sociological investigations- Case study, social survey, questionnaire, interview, and opinion poll methods. Importance of its study with special reference to Health Care Professionals	5H
2	Social Factors in Health and disease situations: Meaning of social factors Role of social factors in health and illness Present Rehabilitation Services	3H
3	Socialization: Meaning and nature of socialization Primary, Secondary and Anticipatory socialization Agencies of socialization Social Groups: Concepts of social groups, influence of formal and informal groups on health and sickness. The role of primary groups and secondary groups in the hospital and rehabilitation setup	5H
4	Family: The family, meaning and definitions. Functions of types of family Changing family patterns, Influence of family on the individual's health, family and nutrition, the effects of sickness in the family and psychosomatic disease and their importance to physiotherapy.	5H
5	Community: Rural community: Meaning and features –Health hazards of rurality, health hazards to tribal community. Urban community: Meaning and features- Health hazards of urbanities	4H
6	Culture and Health: Concept of Health Concept of Culture and Health Culture and Health Disorders	5H
7	Social change: Meaning of social changes. Factors of social changes. Human adaptation and social change. Social change and stress. Social change and deviance. Social change and health programme. The role of social planning in the improvement of health and rehabilitation. Social Problems of disabled. 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,	11 H

	geriatric problems, Problems of underprivileged	
8	Social Security: Social security and social legislation in relation to the disabled Social worker: Meaning of Social Work, The role of a Medical Social Worker	3H
Psychology		
1	Definition of Psychology: Science of mind, consciousness, and behavior Scope and branches of Psychology	5H
2	Methods of Introspection, observation, and experimentation	3H
3	Hereditary and Environment <ul style="list-style-type: none"> i. Relative importance of heredity and environment ii. Physical characteristics intelligence and personality. iii. Nature vs. nurture controversy 	6H
4	Learning: Types of Learning- Trial and error, Classical Learning, Instrumental learning, Insight for Learning	6H
5	Memory: Steps of memory, Measurement of memory, Causes of forgetting, Concept of STM and LTM	6H
6	Perceptual Process: Nature of perceptual process, Structural and functional factors in perception, Illusion and Hallucination	6H
7	Emotion: Emotion and feeling, Physiological changes, Theories of emotion (James-Lange and Eonnon-Bird)	6H
8	Motivation: Motive: need and Drive, Types of motive: Physiological, Psychological and Social	2H
9	Intelligence: Definition: theory and assessment	5H
10	Personality: Definition: Types and measurements	5H

11	<p style="text-align: center;">Child Psychology</p> <p>1. Concept of child Psychology: Meaning: nature and subject matter of child Psychology, Practical importance of studying child Psychology for rehabilitation professionals</p> <p>2. Methods of studying child development: Baby Biography, Case History, Behavior rating</p> <p style="text-align: center;">Applied Psychology</p> <p>Rehabilitation Psychology: Interpersonal Relationships, Family & 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.</p>	7H
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Suggestive Readings:

Textbooks:

1. Megre – Sociology Drydon Press Illinois.
2. Social Problems in India by Ram Ahuja
3. Psychology for Physiotherapists- Jaypee
4. Psychology for Physiotherapists- S K Mangal

References:

1. Sachdeva, & Bhushan – An Introduction to Sociology – Allahabad, Kitab Mahal Ltd.
2. Madan – India Social Problem Vol. 1. – Madaras Allied Publication – 1973
3. Kupuswamy-Social Changes in India – Vikas Delhi
4. Bharucha Erach-The Biodiversity of India, Mapin publishers
5. Cunningham WP-Environmental Encyclopedia, Jaico paul house

SUBJECT: RESEARCH METHODOLOGY & BIOSTATISTICS

SUBJECT CODE: RMB301

CREDITS: 2

Course Objectives:

The course involves a description of some psychological parameters especially as they relate to physiotherapeutic practice and it will introduce students to the basic sociological concepts, principles and social process, social institutions and the various social factors affecting the family in rural and urban communities will be studied.

Course Outcomes (CO):

After taking this course a student will:

CO1: Enumerate the steps in Physiotherapy research process

CO2: Describe the importance & use of biostatistics for research work.

CO3: Describe the PICO format, methods of reviewing literature, formulating hypothesis, collecting data, writing research proposal and research ethics

CO4: Describe study designs, define sampling techniques and discuss the concept of probability and probability distribution, application of inferential statistics and descriptive analysis

CO5: Demonstrate skill of preparing a research proposal, data tabulation, graphical representation of data and research report

Mapping of Course Outcomes (CO) and Program Outcomes (PO):

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓	✓	✓					
CO2	✓	✓	✓					
CO3	✓	✓	✓				✓	✓
CO4	✓	✓	✓				✓	✓
CO5	✓	✓	✓				✓	✓

S. No.	Topics	Hours
1	Unit I – Research Methodology	20H
	<ol style="list-style-type: none"> 1. 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, ethics of research 2. Research problem: Statement of research problem., Statement of purpose and objectives of research problem, Necessity of defining the problem , hypothesis , limitations , delimitations significance of the study 3. Research design: Meaning of research design, Need for research design, Features for good design, Different research designs, Basic principles of research design 4. Sampling: Sampling fundamentals, need for sampling & some fundamental definitions, important sampling distributions, Criteria for selecting sampling procedure, Implications for sample design, steps in sampling design, characteristics of good sample design, Different types of sample design 5. Measurement & scaling techniques: Measurement in research- Measurement scales, sources of error in measurement, reliability, validity , sensitivity and specificity of a measurement tool Technique of developing measurement tools, Meaning of scaling, its classification. Important scaling techniques. 6. Methods of data collection: collection of primary data, collection data through questionnaires & schedules, Difference between questionnaires & schedules. Format of scientific documents. (Structure of protocols, formats reporting in scientific journals, systematic reviews and meta-analysis). 7. Computer technology: Introduction to Computers, computer application in research, Introduction to data analysis software's 	
2	Unit II- Biostatistics	20H
	<ol style="list-style-type: none"> 1. Introduction: Meaning, definition, characteristics of statistics., Importance of the study of statistics, Branches of statistics, Statistics and health science including physiotherapy, Parameters and Estimates, Descriptive and inferential statistics, Variables and their types, Measurement scales. 2. Tabulation of Data: Basic principles of tabulation and graphical representation, Types of diagrams – histograms, frequency polygons, smooth frequency polygon, cumulative frequency curve, Normal probability curve. Pie chart 3. Measure of Central Tendency: Need for measures of central Tendency, Definition and calculation of mean – ungrouped and grouped, Meaning, interpretation and calculation of median ungrouped and grouped., Meaning and calculation of mode, Comparison of the mean, median 	

	<p>and mode, Guidelines for the use of various measures of central tendency.</p> <ol style="list-style-type: none"> 4. Probability and Standard Distributions: Meaning of probability of standard distribution, the binominal distribution, the normal distribution, Divergence from normality – skew ness, kurtosis. 5. Sampling techniques: sample size, calculation of sample size for survey, and experimental research designs, Sampling variation and tests of significance. Type I and type II errors, Power. 6. Testing of hypothesis: Basic concepts concerning testing of hypothesis, Procedure of hypothesis testing, measuring the power of hypothesis test, Tests of hypothesis, parametric and non-parametric tests for difference , correlation and association 7. Analysis of variance & covariance: Analysis of variance (ANOVA), what is ANOVA? Basic principle of ANOVA, ANOVA technique, Analysis of Co variance (ANACOVA). 	
3	Unit III- Evidence Based Practice	5H
	<ol style="list-style-type: none"> 1. Introduction to Evidence Based practice Definition, background, importance, model of Evidence Based Physiotherapy, role of evidence based practitioner 2. Exploring different terminologies Validity, reliability, Randomized Control Trial, Systemic Review, Meta-Analysis, Case Study, Diagnostic research study, Prognostic Research study, Intervention research study, 	

Recommended Readings:

1. Foundations of Clinical Research: Applications to Evidence Based Practice – Leslie G. Portney
2. Research Methodology: Methods and Techniques- C.R. Kothari
3. Research Methods for Clinical Therapists- Carolyn Hicks

2022-23

