



TAKSHASHILA UNIVERSITY

(Tamil Nadu State Private University)
ONGUR, TINDIVANAM TK, VILLUPURAM DT

FACULTY OF HEALTH SCIENCES SCHOOL OF PHYSIOTHERAPY

Department of Physiotherapy

**REGULATION 2023
CURRICULUM & SYLLABI
Bachelor of Physiotherapy
Semester – VII**



VISION AND MISSION OF UNIVERSITY

VISION:

To create change makers and world leaders similar to the ancient Takshashila University

MISSION:

The brightest minds and the best resources are used to nurture and develop the leaders of tomorrow, where they are encouraged to be eternally curious and ethically sound.

DEPARTMENT VISION AND MISSION

VISION:

To create a productive learning and research environment for graduates to become highly dynamic, competent, ethically responsible, professionally knowledgeable in the field of physiotherapy to meet the needs on par with global standards.

MISSION:

M1: Quality Education	Empowering the students with the necessary technical skills through quality education to grow professionally
M2: Innovative Research	Advocating the innovative research ideas by incorporating with hospitals for developing new treatment techniques
M3: Placement and Entrepreneurship	Advancing the education by strengthening the clinical-academic relationship through hands-on training to seek placement in the Hospitals and rehabilitation centres.
M4: Ethics and Social Responsibilities	Stimulating professional behaviour and good ethical values to improve the leadership skills and social responsibilities.

PROGRAMME OUTCOMES (POs)

As an independent practitioner, entry level Physiotherapy graduate will be able to

- PO1:** Demonstrate competencies to provide quality care to the individuals and populations to optimize their movement, function, and quality of life.
- PO2:** Demonstrate competency to examine, assess, evaluate, treat and prescribe physiotherapeutic management of various disease, disorders and trauma conditions.
- PO3:** Promote health and implement strategies informed by best available research evidence to prevent and minimize impairments, activity limitations and participation restrictions caused due to various disorders.
- PO4:** Demonstrate the commitment to provide ethical care through high standards of professional practice.
- PO5:** Demonstrate abilities to communicate effectively to augment therapeutic and professional relationships.
- PO6:** Demonstrate competency to prescribe and comprehend various diagnostic imaging, electrophysiological, hematological and bio- chemistry investigations for proper diagnosis, treatment or referral to other healthcare professionals.
- PO7:** Demonstrate competencies to integrate best available research evidence in to clinical decision making and practice.
- PO8:** Exhibits commitment towards continuous learning and scholarly activities.
- PO9:** Demonstrate abilities to work effectively with Healthcare team in providing patient centered care.
- PO10:** Demonstrate abilities to manage self, time, resources and priorities to ensure safe, effective, and sustainable services.
- PO11:** Demonstrate competencies in quality assurance relevant to Physiotherapy practice.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO1: Able to acquire the cognitive, affective and psychomotor skills deemed essential for completion of this program and to perform as a competent physiotherapist who will be able to examine, evaluate, diagnose, plan, execute and document Physiotherapy treatment independently or along with the multidisciplinary team.

PEO2: Evaluate patients for impairments and functional limitations and able to execute all routine physiotherapeutic procedures as per the evaluation.

PEO3: Able to operate and maintain Physiotherapy equipment used in treatment of patient, Physiotherapy treatment planning (both electrotherapy and exercise therapy) & procedures independently.

PEO4: Able to provide patient education about promotion of health, prevention of disease and disorders and various physiotherapeutic interventions to the patient and care givers.

PEO5: Able to demonstrate all competencies to achieve the program outcomes.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Clinician / Physiotherapy Practitioner

Demonstrate competencies to provide quality care to individuals and populations to optimise their movement, function, and quality of life. Promote health and implement strategies informed by best available research evidence to prevent and minimise impairments, activity limitations and participation restrictions caused due to various disorders.

PSO2: Ethical and Professional practitioner

Demonstrate the commitment to provide ethical care through high standards of professional practice

PSO3: Communicator

Demonstrate abilities to communicate effectively to augment therapeutic and professional relationships

PSO4: Evidence-based Practitioner and lifelong learner

Demonstrate competencies to integrate best available research evidence into clinical decision making and practice.

Exhibits commitment towards continuous learning and scholarly activities.

PSO5: Inter-professional teamwork

Demonstrate abilities to work effectively with Healthcare team in providing patient centred care

PSO6: Leader and Manager

Demonstrate abilities to manage self, time, resources and priorities to ensure safe, effective, and sustainable services.

PSO7: Quality assurance

Demonstrate competencies in quality assurance relevant to physio- therapy practice

CURRICULUM

School: School of Physiotherapy
Program: Bachelor of Physiotherapy

Batch: 2023-2027
Regulation: R-2023

SEMESTER-VII											
Sl. No	Course Code	Course Title	Category	Periods			Total hrs	Credits	Max. Marks		
				L	T	P			CAM	ESE	Total
Theory											
1	U23PT7T01	Neurology Including Psychiatry and Neurosurgery (NPNS) - I	PC	4	0	0	60	4	40	60	100
2	U23PT7T02	Cardio Thoracic Diseases and Surgeries(CTD) -I	PC	4	0	0	60	4	40	60	100
3	U23PT7T03	Community Physiotherapy and Rehabilitation(CPTR) – I	PC	4	0	0	60	4	40	60	100
4	U23PT7T04	Physiotherapy Ethics, Medico Legal aspects, Management and Administration(PTLM) – I	PC	4	0	0	60	4	40	60	100
5	U23PT7T05	Physiotherapy in Adult and Paediatric Neurological and Neurosurgical Conditions (PTN)–I	PC	5	0	0	75	5	40	60	100
6	U23PT7T06	Physiotherapy in Adult and Paediatric Cardiac Thoracic Conditions and Surgical Conditions(PTCT) - I	PC	5	0	0	75	5	40	60	100
7	U23PT7T07	Sports Physiotherapy and Exercise Prescription(PTS)-I	PC	5	0	0	75	5	40	60	100
Practical											
8	U23PT7P05	Physiotherapy in Adult and Paediatric Neurological and Neurosurgical Conditions (PTN)–I	PC	0	0	4	60	2	50	50	100
9	U23PT7P06	Physiotherapy in Adult and Paediatric Cardiac Thoracic Conditions and Surgical Conditions(PTCT) - I	PC	0	0	4	60	2	50	50	100
10	U23PT7P07	Sports Physiotherapy and Exercise Prescription(PTS)-I	PC	0	0	4	60	2	50	50	100
11	U23PT7P08	Project Work(PW)-I	PC	3	0	6	45	3	50	50	100
12	U23PT7P09	Clinical Rotation(CLRo)-I	PC	0	0	6	120	3	100		100
Generic elective											
13	U23xx7xxx	Generic Elective-V	GE	0	0	2	30	1	100		100
University Mandatory Course											
14	U23UM7P10	Takshashila Innovative Learning - VII	TIL	0	0	2	30	1	100		100
15	U23UM7P11	Green credit- VII	GC	0	0	2	30	1	100		100
Total							900	46	880	620	1500

U23PT7T01	Neurology Including Psychiatry and Neurosurgery (NPNS) - I	L	T	P	C	Total
		4	0	0	4	60

COURSE OUTCOMES:

After completion of the course, the students will be able to

CO1 :	Demonstrate the ability to perform neurological assessment, localize neurological lesions, and interpret basic neurodiagnostic investigations for clinical decision-making.
CO2 :	Explain the etiology, pathophysiology, clinical features, investigations, and management of brain, spinal cord, vestibular, and motor neuron disorders.
CO3 :	Analyze the clinical presentation, diagnostic evaluation, and medical and surgical management of brain and spinal tumors and common movement disorders.
CO4 :	Evaluate the clinical manifestations, diagnostic findings, and management strategies for multiple sclerosis and cerebellar and coordination disorders.
CO5 :	Assess neuropsychological and neurobehavioral disorders by identifying their clinical features, diagnostic approaches, and evidence-based management, including epilepsy, dementia, coma, brain death, perceptual, and speech disorders.

UNIT I : Neuro Assessment and Investigation	12 Hrs.
Disorders of function in the context of Pathophysiology, Anatomy in Neurology and Cortical Mapping. Classification of neurological involvement depending on level of lesion. Reviews in brief the Neurophysiologic basis of tone and Disorders of tone and Posture, Bladder control, Muscle conduction, Movement and Pain, Management of Pain, Electrical Stimulation of Brain and Spinal cord. Trauma - Broad localization, first aid and management. Neurological assessment: Principles of clinical diagnosis, higher mental function, assessment of brain & spinal cord function, evaluation of cranial nerves and evaluation of autonomic nervous system. Basic history taking to determine whether the brain, spinal cord or peripheral nerve is involved, Assessment of higher mental function such as Orientation, Memory, Attention, Speech and Language, Assessment of Cranial nerves, Assessment of Motor system, Assessment of Sensor function, Touch, Pain and Position, Assessment of Tone-Spasticity, Rigidity and Hypotonic, Assessment of Cerebral function, Assessment of Higher cortical function – Apraxia, Assessment of Gait Abnormalities. Investigations: principles, methods, views, normal/abnormal values/features, types of following investigative procedures- skull x-ray, CT, MRI, evoked potentials, lumbar puncture, CSF examination, EMG, NCV.	





UNIT II : Brain and Spinal Cord Disorders**12 Hrs.**

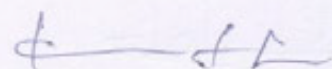
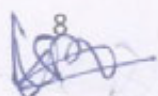
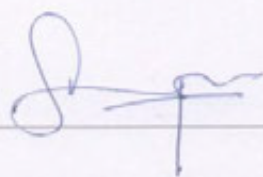
Vestibular disorders: Deafness, vertigo, and imbalance Physiology, tests of vestibular function, vertigo, peripheral vestibular disorders, central vestibular vertigo. **Cerebro-vascular diseases:** Define stroke, TIA, RIA, stroke in evolution, multi infarct dementia and Lacunar infarct. Classification of stroke – Ischemic, hemorrhagic, venous infarcts. Risk factors, cause of ischemic stroke, causes of hemorrhagic stroke. Classification of hemorrhagic stroke, classification of stroke based on symptoms, stroke syndrome, investigations, differential diagnosis, medical and surgical management. **Spinal cord disorders:** Functions of tracts, definition, etiology, risk factors, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, surgical management and complications of following disorders – Spinal cord injury, Compression by space occupying lesion, infection of brain, etc. IVD prolapse, Spinal epidural abscess, Transverse myelitis, Viral myelitis, Syringomyelia, Spina bifida, Sub acute combined degeneration of the cord, Hereditary spastic paraplegia, Radiation myelopathy, Progressive encephalomyelitis, Conus medullaris syndrome, Bladder & bowel dysfunction, and Sarcoidosis. **Motor neuron diseases:** Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, and complications of following disorders - Amyotrophic lateral sclerosis, Spinal muscular atrophy, Hereditary bulbar palsy, Neuromyotonia and Post-irradiation lumbosacral polyradiculopathy.

UNIT III: Tumors and Movement disorders**12 Hrs.**

Brain tumors and spinal tumors: Classification, clinical features, investigations, medical and surgical management. **Movement disorders:** Definition, etiology, risk factors, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, surgical management and complications of following disorders – Parkinson's disease, Dystonia, Chorea, Ballism, Athedosis, Tics, Myoclonus and Wilson's disease.

UNIT IV : Multiple sclerosis and Cerebellar & coordination disorders**12 Hrs.**

Multiple sclerosis: Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, and complications. **Cerebellar and coordination disorders:** Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, management of Congenital ataxia, Friedreich's ataxia, Ataxia telangiectasia, Metabolic ataxia, Hereditary cerebellar ataxia, Tabes dorsalis and Syphilis



UNIT V: Neuro psychological and neurobehavioral disorders:**12 Hrs.**

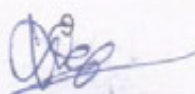
Higher cortical, neuro psychological and neurobehavioral disorders: Causes of blackouts, physiological nature of Epilepsy, classification, clinical features, investigations, medical & surgical management of following disorders – Non-epileptic attacks of childhood, Epilepsy in childhood, Seizures, and Epilepsy syndromes in adult. Classification and clinical features of Dyssomnias, Parasomnias, Dementia, Obsessive-compulsive disorders. Neural basis of consciousness, causes & investigations of Coma, criteria for diagnosis of Brain death. Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, management of Perceptual disorders and Speech disorders, Alzheimer disease.

Total Hours: 60**TEXT BOOKS :**

1. Davidson's Principles and practices of medicine - Edward - Churchill Livingstone.
2. API- Text book of Medicine, 5th edition
3. Medicine and Neurology by Golewala.

REFERENCE BOOKS :

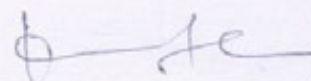
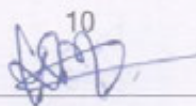
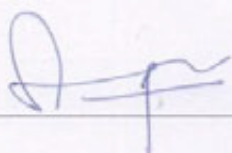
1. Brain's Diseases of the Nervous System - Nalton – ELBS.
2. Guided to clinical Neurology - Mohn & Gaectier - Churchill Livingstone.
3. Principles of Neurology - Victor – McGraw Hill International edition.
4. Neurological Rehabilitation - Darcy Umphred.



WEB REFERENCES :

1. <https://www.youtube.com/@NinjaNerdOfficial>
2. <https://www.youtube.com/@DrSidWarrier>
3. <https://www.youtube.com/@NeurosurgeryCN>
4. <https://www.youtube.com/@MemorablePsychiatryNeurology>
5. <https://www.nimhans.ac.in/>

K.N. Jena
BoS Chairman



23PT7T02	Cardio Thoracic Diseases and Surgeries(CTD) -I	L	T	P	C	Total
		4	0	0	4	60

COURSE OUTCOMES:

After completion of the course, the students will be able to

CO1 :	Explain the anatomy, physiology, pathophysiology, diagnostic investigations, differential diagnosis, and principles of management of common cardiorespiratory disorders.
CO2 :	Analyze the etiology, clinical features, diagnostic evaluation, complications, and medical and surgical management of common cardiovascular and vascular disorders.
CO3 :	Evaluate the pathophysiology, clinical presentation, investigations, complications, and management of common respiratory system disorders.
CO4 :	Assess various chest wall deformities, their impact on respiratory function, and their association with pulmonary diseases.
CO5 :	Apply knowledge to identify, diagnose, and outline the management of occupational lung diseases and different types of respiratory failure.

UNIT I: Anatomy and Physiology of Cardio- respiratory systems.	12 Hrs.
Brief idea of Anatomy and Physiology of Cardio- respiratory systems, Outline Aetiopathogenesis of Cardio-respiratory disorders, Investigations, Diagnostic Differential, diagnosis principles of management.	

UNIT II: Cardio vascular disorder	12 Hrs.
Cardiac failure: Definition, Causes, Symptoms and Signs and Brief management of Cardiac failure, Rheumatic Fever Definition, Brief description of Aetiology, Clinical features, Complication and Treatment Congenital Heart Diseases: Classification and brief outline of diseases like ASD, VSD, PDA, Fallots's Tetralogy with complication, Ischemic Heart Disease Aetiopathogenesis, Classification. Symptoms, Diagnosis and Medical and Surgical treatment, Hypertension Definition, Classification, Symptomatology, Complications and Treatment, Infective Endocarditis Brief aetiopathogenesis, clinical features, Diagnosis and Treatment, Brief description of Deep Vein Thrombosis and Pulmonary embolism. Vascular Disease: Atherosclerosis, Buerger's disease, Phlebitis etc,	

UNIT III : Respiratory System disorders	12 Hrs.
Respiratory System: Respiratory diseases including diseases of chest wall, Chronic Bronchitis and Emphysema: Definition. Clinical features, and investigation, complication and treatment., Bronchial asthma - Definition, Aetiology pathogenesis, clinical features, Diagnosis and Treatment, Pneumonia - Definition, Classification, clinical features, Complications and Treatment. Tuberculosis Aetiopathogenesis, clinical test of pulmonary tuberculosis, Diagnosis Complication & Treatment, Lung abscess and Bronchiectasis , Definition, clinical features, Diagnosis and Treatment	

UNIT IV : Chest wall deformities	12 Hrs.
Chest wall deformities- Describe various deformities of chest wall, its effect and Pulmonary diseases associated with it,	

UNIT V: Occupational Lung Diseases and Respiratory failure	12 Hrs.
Occupational Lung Diseases: Clinical features, Diagnosis and Treatment, Respiratory failure: Classification, Causes and Treatment	

Total Hours: 60

TEXT BOOKS :	
1.	Cardiothoracic Surgery: Recent Advances and Techniques- by Daniel Willson.
2.	Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine - By Douglas P. Zipes , Peter Libby.
3.	Textbook of Interventional Cardiology Hardcover – by Eric J. Topol MD and Paul S. Teirstein MD.
4.	Textbook of Pulmonary and Critical Care Medicine (vol 1&vol 2)by SK Jindal.
5.	Principles of Respiratory Medicine - by Farokh Erach, Zarir Farokh Udwadia, Anirudh Kohli Udwadia 6.Davidson's Principles and Practice of Medicine.

REFERENCE BOOKS :

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|----|---|
| 1. | Murray & Nadel's Textbook of Respiratory Medicine – by Robert J. Mason MD |
| 2. | Bailey & Love's Short Practice of Surgery text book |
| 3. | Oxford Textbook of Fundamentals of Surgery- by William E. G. Thomas, Malcolm W. R. Reed, Michael G. Wya |
| 4. | Surgery by Nan. |

WEB REFERENCES :

- | | |
|----|---|
| 1. | https://www.heart.org/?utm_source=chatgpt.com |
| 2. | https://www.escardio.org/Guidelines?utm_source=chatgpt.com |
| 3. | https://pubmed.ncbi.nlm.nih.gov/?term=cardiorespiratory+physiotherapy&utm_source=chatgpt.com |
| 4. | https://www.who.int/health-topics/cardiovascular-diseases?utm_source=chatgpt.com |
| 5. | https://www.who.int/health-topics/cardiovascular-diseases?utm_source=chatgpt.com |

K.N. Jena
BoS Chairman

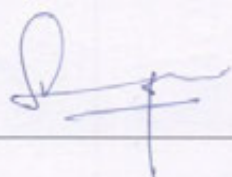
U23PT7T03	Community Physiotherapy and Rehabilitation(CPTR) – I	L	T	P	C	Total
		4	0	0	4	60

COURSE OUTCOMES:

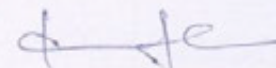
After completion of the course, the students will be able to

CO1 :	Explain the structure of community-based rehabilitation (CBR), the roles of healthcare personnel, and the application of physiotherapy in disability prevention, rehabilitation, and community health programs.
CO2 :	Describe the roles and contributions of national, international, governmental, and voluntary organizations in community-based rehabilitation and public health initiatives
CO3 :	Analyze the principles, concepts, team approach, and epidemiology of rehabilitation, including the role of physiotherapy in disability prevention and functional restoration.
CO4 :	Evaluate rehabilitation models, occupational therapy principles, disability legislation, community-based rehabilitation strategies, functional assessment, and the roles of the rehabilitation team and family in achieving functional independence.
CO5 :	Demonstrate knowledge of the principles, indications, assessment, fitting, and clinical applications of orthoses, prostheses, assistive devices, and occupational therapy interventions for activities of daily living (ADLs).

UNIT I : National District Level Community Program	12 Hrs.
National District Level Community Program: Primary rehabilitation unit, Regional training center, District rehabilitation center, Primary Health center, Village rehabilitation worker, Anganwadi worker, Role of Physiotherapy in CBR: Screening for disabilities, Prescribing exercise program, Prescribing and devising low cost locally available assistive aids, Modifications physical and architectural barriers for disabled, Disability prevention, Strategies to improve ADL, Rehabilitation program for various neuro-musculoskeletal and cardiothoracic disabilities, Assessment of disability in rural & urban setups. Health care delivery system & preventive measures with specific reference to disabling conditions. Community education program, Application of Physiotherapy skills at community level with special reference to the need at rural level.	



14

UNIT II : Role of voluntary Organizations in CBR**12 Hrs.**

Role of voluntary Organizations in CBR: Charitable Organizations, Voluntary health agencies – National level and International NGO"s, Multilateral and Bilateral agencies. **International Health Organizations:** WHO, UNICEF, UNDP, UNFPA, FAO, ILO, World bank, USAID, SIDA, DANIDA, Rock feller, Ford foundation CARE, RED CROSS

UNIT III : Introduction of Rehabilitation & History**12 Hrs.**

Introduction of Rehabilitation & History, Epidemiology of disability (Impairment, disability, phases of disability process, etc.). Principles of Rehabilitation & concept of team approach with rolls of each individual participant, Organization of Rehabilitation unit, Disability prevention evaluation & principles of Rehabilitation Management, Role of Physiotherapy in Rehabilitation (Preventive, treatment & restoration), Brief outline of Communication disorder & its implications on Rehabilitation process, Brief outline of psychosocial & vocational aspects of Rehabilitation.

UNIT IV: Introduction to Occupational therapy.**12 Hrs.**

Introduction to Occupational therapy, Activities of daily living, functional assessment & training for functional independence, Brief outline of basic community medicine with special reference to community based Rehabilitation, infrastructure and role of CBR, **Disability and Rehabilitation:** concept and Definition, models of disability international classification of functioning Definition and concept of Impairment, Handicap and Disability activity limitation, participation restriction, environmental factors, contextual factors Types. Conceptual framework of rehabilitation, roles of rehabilitation team members, definitions and various models of rehabilitation Role of family members in the rehabilitation of a physically handicapped. Prevention of disability laws related to disability people with disability act, national trust act, **Introduction to Community Based Rehabilitation:** Definition, Historical review, Concept of CBR, need for CBR, Difference between Institution based and Community based Rehabilitation, Objectives of CBR, Scope of CBR, Members of CBR team, Models of CBR Extension services and mobile units: Introduction, Need, Camp approach, **Disability Evaluation:** Introduction, What, Why and How to evaluate, Quantitative versus Qualitative data, Uses of evaluation findings. GOI guidelines

UNIT V - Principles of Orthotic	12 Hrs.
Principles of Orthotics- types, indications, contra indications, assessment (check out), uses and fitting region wise, Orthotics for the Upper Limb, Orthotics for the Lower Limb, Orthotics for the Spine, Principles of Prosthetics –types, indications, contraindications, assessment check out, uses and fitting – region wise, Assistive devices and Technologies, Introduction to Occupational Therapy Definition, scope and importance of Activities of Daily Living (ADLs)self-care activities, such as toilet, eating, dressing etc.	

Total Hours: 60

TEXT BOOKS :	
1.	Handbook of Rehabilitation – Sunder
2.	Orthotics in Rehabilitation: Mckee and Morgan – F. A. Davis
3.	Orthotics and prosthetic and assistive devices for physiotherapists by sinha, sharma and tripathy jaypee brothers
4.	Park's Textbook of Preventive & Social Medicine - K.Park
5.	Physical Rehabilitation – Assessment and Treatment – Sullivan & Schmitz F. A. Davis.

REFERENCE BOOKS :	
1.	Status of Disabled in India -2000-RCI publication
2.	Legal Rights of disabled in India- Gautam Bannerjee
3.	ICF –WHO Health Organisation 2001publication
4.	Training in the Community for the people with disability – Hallender Padmini368
5.	Mendes Disabled Village Children—David Werner

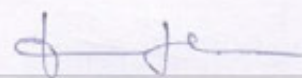
WEB REFERENCES :

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| 1. | https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation?utm_source=chatgpt.com |
| 2. | https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation?utm_source=chatgpt.com |
| 3. | https://www.physio-pedia.com/Community_Based_Rehabilitation?utm_source=chatgpt.com |
| 4. | https://www.physio-pedia.com/Community_Based_Rehabilitation?utm_source=chatgpt.com |
| 5. | https://pubmed.ncbi.nlm.nih.gov/?term=community+rehabilitation&utm_source=chatgpt.com |

K. N. Jura
BoS Chairman







U23PT7T04	Physiotherapy Ethics, Medico Legal aspects, Management and Administration (PTLM) – I	L	T	P	C	Total
		4	0	0	4	60

COURSE OUTCOMES:

After completion of the course, the students will be able to

CO1 :	Explain the principles of morality, ethics, legality, and professional conduct in physiotherapy practice, including patient rights, informed consent, confidentiality, and professional accountability.
CO2 :	Apply ethical principles and professional values in research, education, and patient care while demonstrating integrity, accountability, confidentiality, and professional responsibility.
CO3 :	Analyze the code of professional conduct and demonstrate appropriate ethical relationships with patients, healthcare institutions, colleagues, and other healthcare professionals.
CO4 :	Evaluate international and national ethical guidelines governing physiotherapy practice and research, including the Helsinki Declaration, ICMR guidelines, and WCPT ethical principles.
CO5 :	Interpret the legal framework governing physiotherapy practice, including professional regulations, consumer protection, disability legislation, professional indemnity, and ethical consultation practices.

UNIT I : Morality, Ethics and Legality Personal values	12 Hr
Concept of Morality, Ethics and Legality Personal values- ethical or moral values, ethical issues in physiotherapy practice: Professionalism, informed consent, confidentiality, sexual and physical abuse, social characteristics, and personal relationships, professional issues, Client interest and Satisfaction, Confidence and Communication, malpractice, negligence, rights of patients, liability and obligations.	

UNIT II : Ethics in Research	12 Hrs.
Professional ethics in research, education and patient care delivery: Professionalism, Professional values- Integrity, Objectivity, Professional competence and due care, Confidentiality. Core values- Accountability, Altruism, Compassion/ caring, excellence, integrity, professional	

duties, social responsibility Attitude and behavior- professional behavior professional accountability and responsibility, misconduct.

UNIT III : Code of Medical Ethics	12 Hrs.
Code of professional conduct: Differences between professions and importance of team efforts Relationship with patients Relationship with health care institutions Relationship with colleagues and peers Relationship with medical and other professional Referral relationships.	

UNIT IV: Ethical Principles	12 Hrs.
Salient features of Helsinki declaration, IMCR code of ethics of research involving human subjects, Ethical principles of WCPT.	

UNIT V: Laws Governing Physiotherapy Practice	12 Hrs.
Laws governing physiotherapy practice - AHCPCA. Consumer protection law, People with Disability Act Professional Indemnity insurance policy, direct access meaning and responsibilities, The consulting process, The skills of a good consultant Trust in the consultant/client relationship Ethical and legal issues in consultation, Development of Physiotherapy Profession.	

Total Hours: 60

TEXT BOOKS :	
1.	CM Francis Medical Ethics jay pee new delhi
2.	Raja K Davis F Ethical Issues: Perspectives for the Physiotherapists pee pee brothers new delhi
3.	Percival, T. (2014). <i>Medical ethics</i> . Cambridge University Press.
4.	Dunn, M., & Hope, T. (2018). <i>Medical ethics: a very short introduction</i> . Oxford University Press.
5.	Sakharkar BM Principles of hospital administration and planning jaypee brothers new delhi

REFERENCE BOOKS :

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| 1. | Hébert, P. C., & Rosen, W. (2009). Doing right: a practical guide to ethics for .medical trainees and physicians (p. 352). |
| 2. | Don Mills, ON: Oxford University Press. |
| 3. | American Medical Association, & New York Academy of Medicine. (1848). |
| 4. | Code of medical ethics. H. Ludwig &Company |
| 5. | Blackburn, S. (2003). <i>Ethics: A very short introduction</i> (Vol. 80). Oxford University Press. |

WEB REFERENCES :

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| 1. | https://ncchp.abdm.gov.in/?utm_source=chatgpt.com |
| 2. | https://www.mohfw.gov.in/?utm_source=chatgpt.com |
| 3. | https://pubmed.ncbi.nlm.nih.gov/?term=legal+issues+physical+therapy&utm_source=chatgpt.com |
| 4. | https://www.apta.org/?utm_source=chatgpt.com |
| 5. | https://world.physio/?utm_source=chatgpt.com |

K. N. Jena
BoS Chairman

U23PT7T05	Physiotherapy in Adult and Paediatric Neurological and Neurosurgical Conditions (PTN)-I	L	T	P	C	Total
		5	0	0	5	75

COURSE OUTCOMES:

After completion of the course, the students will be able to

CO1 :	Demonstrate comprehensive neurological assessment skills by evaluating higher mental functions, motor and sensory systems, reflexes, gait, balance, coordination, and functional status using standardized assessment tools.
CO2 :	Apply the principles and therapeutic techniques of neurophysiological approaches in the rehabilitation of patients with neurological disorders.
CO3 :	Evaluate neurological disorders affecting the brain, spinal cord, cerebellum, and muscles, and formulate evidence-based physiotherapy management plans using appropriate neurophysiological approaches.
CO4 :	Assess neurodevelopmental disorders in pediatric patients and develop appropriate physiotherapy interventions based on developmental assessment and neurophysiological principles.
CO5 :	Analyze neurological gait abnormalities using qualitative and quantitative gait assessment and implement appropriate physiotherapy management strategies to improve functional mobility.

UNIT I : Neurological Assessment	15 Hrs.
Neurological Assessment: Chief complaints, History taking – Present, Past, medical, familial, personal histories, Observation, Palpation, Higher mental function – Consciousness, Orientation, Wakefulness, memory, Speech, Reading, Language, Writing, Calculations, Perception, Left right confusion, Reasoning, and Judgment, Motor Examination – Muscle power, Muscle tone, Spasticity, Flaccidity, Reflexes – Developmental reflexes, deep tendon reflexes, Superficial reflexes, Sensory examination – Superficial, Deep and Cortical sensations, Special tests – Romberg's, Kernig's sign, Brudzinksi sign, Tinels's sign, Slum test, Lehermitte's sign, Bells Phenomenon, Gower's sign, Sun set sign, Battle's sign, Glabellar tap sign, etc, Balance examination, coordination examination, Gait analysis – Kinetics & Kinematics (Quantitative & Qualitative analysis), Functional Analysis, Assessment tools & Scales – Modified Ashworth scale, Berg balance scale, FIM, Barthel index, Glasgow coma scale, Mini mental state examination, Rancho Los Amigos Scale for Head injury, APGAR score, ASIA scale, Reflex Grading, Differential diagnosis	

UNIT II : Neuro physiological Techniques	15 Hrs.
Neuro physiological Techniques – Concepts, Principles, Techniques, Effects of following Neurophysiological techniques: NDT, PNF, Rood's Sensory motor Approach, Sensory Integration Approach, Brunnstrom movement therapy, Motor relearning program, Contemporary task oriented approach, Muscle re-education approach and Constraint induced movement therapy.	

UNIT III : Evaluation and Management of Brain and Spinal Cord Disorders	15 Hrs.
Evaluation and Management of Brain and Spinal Cord Disorders : History, Observation, Palpation, Higher mental function, Cranial nerve examination, Motor & Sensory examination, Reflex testing, differential Diagnosis, Balance & Coordination examination, Gait analysis, Functional analysis, List of Problems & Complications, short & Long Term goals, Management of systemic complications, Management of Mechanical Complications, Use of various Neurophysiological approaches& Modalities in Cerebro vascular Accident, Meningitis, Encephalitis, Head Injury, Brain Tumors, Perceptual disorders, Amyotrophic lateral sclerosis, and Multiple sclerosis, Evaluation and Management of Cerebellar, Spinal Cord and Muscle Disorders : History, Observation, Palpation, Motor & Sensory examination, Reflex testing, differential Diagnosis, Balance & Coordination examination, Gait analysis, Functional analysis, List of Problems & Complications, Short & Long Term goals, Management of systemic complications, Management of Mechanical Complications, Use of various Neurophysiological approaches& Modalities in Ataxia, Sensory Ataxia, Parkinson's disease, Muscular dystrophy (DMD), Myasthenia Gravis, Eaton-Lambert Syndrome, Spinal tumors, Spinal cord injury, Transverse myelitis, Bladder & Bowel Dysfunction, Spinal muscular atrophies, Poliomyelitis, Post-Polio Syndrome	

UNIT IV: Paediatric Neurology	15 Hrs.
Paediatric Neurology: Paediatric Examination, Developmental milestones, developmental reflexes, Neuro developmental screening tests. Evaluation & Management - History, Observation, Palpation, Milestone Examination, developmental reflex Examination, Higher mental function, Cranial nerve examination, Motor & Sensory examination, Reflex testing, differential Diagnosis, Balance & Coordination examination, Gait analysis, Functional analysis, List of Problems & Complications, short & Long Term goals, Management of systemic complications, Management of Mechanical, Complications, Use of various Neurophysiological approaches & Modalities in Risk babies, Minimum brain damage, Developmental disorders, Cerebral palsy, Autism, Down's Syndrome, Hydrocephalus, Chorea, Spina bifida, and syringomyelia	

UNIT V: Assessment and management of Neurological gaits	15 Hrs.
Assessment and management of Neurological gaits: Quantitative and Qualitative (Kinetic & Kinematics) analysis, List of Problems, short & Long Term goals, Management of following Neurological Gaits - Hemiplegic gait, Parkinson gait, High step gait, Hyperkinetic gait, Hypokinetic gait, Waddling gait, Scissoring gait, Spastic gait, Chorea form Gait, Diplegic Gait, and Myopathic Gait.	

Total Hours: 75

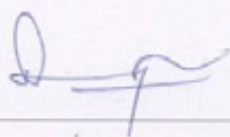
TEXT BOOKS :	
1.	Patricia A D. Cash's Text book for Physio Therapist in Neurological disorders. Jaypee bros
2.	Adler B. PNF in practice. Springer.
3.	Hollis M. Practical Physical Therapy
4.	O'Sullivan S. Physical Rehabilitation
5.	Johnstone M. Therapy for stroke. Edinburgh: Churchill Livingstone

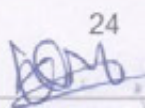
REFERENCE BOOKS :	
1.	Umphred D. Neurological rehabilitation. Saint Louis: Mosby/Elsevier;
2.	Donaghy M. Brain's diseases of the nervous system. Oxford: Oxford University Press; 2009
3.	Bobath B. Adult hemiplegia. Oxford (England): Heinemann Medical Books
4.	Patricia M D. Right in the middle. Springer-Verlag.

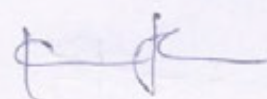
WEB REFERENCES :

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2.	https://pubmed.ncbi.nlm.nih.gov/?term=pediatric+neurorehabilitation&utm_source=chatgpt.com
3.	https://world.physio/?utm_source=chatgpt.com
4.	https://www.nice.org.uk/guidance/?utm_source=chatgpt.com
5.	https://www.aan.com/?utm_source=chatgpt.com

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BoS Chairman



24




U23PT7P05	Physiotherapy in Adult and Paediatric Neurological and Neurosurgical Conditions (PTN)-I	L	T	P	C	Total
		0	0	4	2	60

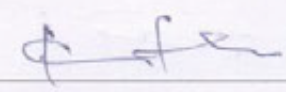
COURSE OUTCOMES:

After completion of the course, the students will be able to

CO1 :	Demonstrate competency in neurological patient assessment, bedside case presentation, clinical reasoning, and physiotherapy treatment techniques through supervised practical sessions.
CO2 :	Perform comprehensive neurological history taking, clinical examination, functional assessment, documentation, and physiotherapy diagnosis for effective patient management.
CO3 :	Develop and implement evidence-based physiotherapy management plans using appropriate exercise regimens and neurophysiological techniques for common neurological conditions.
CO4 :	Apply passive mobilization, stretching, electrotherapy, patient education, caregiver training, and functional rehabilitation strategies to optimize neurological recovery.
CO5 :	Demonstrate the ability to manage bladder and bowel dysfunction, provide integumentary care, prescribe appropriate assistive and orthotic devices, and deliver ergonomic advice for functional independence.

UNIT I : Beside case presentations and case dicussions	12 Hrs.
Bedside case presentations and case discussions, Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions Student should be able to execute independently the following procedures on self / human model / patient	

UNIT II : History taking	12 Hrs.
History taking: examination observation palpation tests, investigation, diagnosis, functional diagnosis [impairment, functional restriction, activity limitation] documentation	

UNIT III: Planning and execution of management protocol	12 Hrs.
Planning and execution of management protocol for commonly encountered neurological condition in clinical practice of Physiotherapy with respect to Active exercise regimen, Inhibitory and facilitator techniques	

UNIT IV: Passive mobilization and stretching procedures	12 Hrs.
Passive mobilization and stretching procedures Selection of electrotherapeutic Modalities, Patient and caregiver education and training Functional training programme	

UNIT V: Bladder bowel training	12 Hrs.
Bladder bowel training Integumentary care, Prescription and training of suitable aids appliances and Orthotic Devices Ergonomic advice	

Total Hours: 60

TEXT BOOKS :	
1.	Patricia A D. Cash's Text book for Physio Therapist in Neurological disorders. Jaypee bros
2.	Adler B. PNF in practice. Springer.
3.	Hollis M. Practical Physical Therapy
4.	O'Sullivan S. Physical Rehabilitation
5.	Johnstone M. Therapy for stroke. Edinburgh: Churchill Livingstone

26

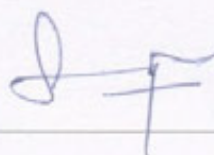
REFERENCE BOOKS :

1.	Umphred D. Neurological rehabilitation. Saint Louis: Mosby/Elsevier;
2.	Donaghy M. Brain's diseases of the nervous system. Oxford: Oxford University Press; 2009
3.	Bobath B. Adult hemiplegia. Oxford (England): Heinemann Medical Books
4.	.Patricia M D. Right in the middle. Springer-Verlag.
5.	Russell, R.C.G.Short practice In Surgery Arnold, London

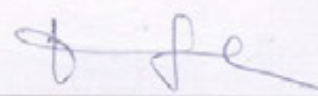
WEB REFERENCES :

1.	https://pubmed.ncbi.nlm.nih.gov/?term=pediatric+neuorehabilitation&utm_source=chatgpt.com
2.	https://pubmed.ncbi.nlm.nih.gov/?term=pediatric+neuorehabilitation&utm_source=chatgpt.com
3.	https://world.physio/?utm_source=chatgpt.com
4.	https://www.nice.org.uk/guidance/?utm_source=chatgpt.com
5.	https://www.aan.com/?utm_source=chatgpt.com

K.N. Jura
BoS Chairman



22

U23PT7T06	Physiotherapy in Adult and Paediatric Cardiac Thoracic Conditions and Surgical Conditions(PTCT) - I	L	T	P	C	Total
		5	0	0	5	75

COURSE OUTCOMES:

After completion of the course, the students will be able to

CO1 :	Demonstrate comprehensive cardiorespiratory assessment skills by evaluating respiratory function, interpreting diagnostic investigations, identifying impairments, and formulating physiotherapy goals.
CO2 :	Apply evidence-based physiotherapy techniques for airway clearance and lung expansion by selecting appropriate interventions based on patient assessment and clinical indications.
CO3 :	Implement physiotherapy interventions and adjunct therapies to reduce breathlessness and improve respiratory function in individuals with cardiorespiratory dysfunction.
CO4 :	Evaluate patients with common respiratory disorders and develop individualized physiotherapy management plans to address impairments, activity limitations, and participation restrictions.
CO5 :	Assess patients undergoing pulmonary surgeries and design comprehensive pulmonary rehabilitation programs to optimize respiratory function and functional capacity.

UNIT I : Basics of Respiratory system & Assessment	15 Hrs.
Basics of respiratory system: Discuss the process of gaseous exchange, Explain the possible factors, which affects gaseous exchange, Discuss the effect of impaired gaseous exchange on function, Cardio, Respiratory Evaluation assessment; Demonstrate skills in conducting subjective assessment, Demonstrate skills in performing physical examination to identify the problems, Palpation, Chest, expansion measurements, Percussion note, Tactile and vocal fremitus, Auscultation, Six minute walk test, Blood investigations, ABG, Chest X ray, PFT, ECG, Exercise testing report, demonstrate skill in selecting and applying outcome measures used cardio respiratory care, Demonstrate skills in identifying impairments, activity limitations and participatory restrictions caused by cardio respiratory disorders with appropriate rationale. Prioritize and formulate physiotherapy goals.	

UNIT II : Physiotherapy techniques in cardiorespiratory dysfunction	15 Hrs.
Physiotherapy techniques in cardiorespiratory dysfunction: Explain the physiological mechanism, Indications, Contra indications, precautions and evidence pertaining to physiotherapy techniques used for airway secretions, Positioning, Postural Drainage, Chest wall manipulation, Forced Expiratory techniques, Active Cycle of breathing techniques, Autogenic drainage, Positive Expiratory Pressure, Demonstrate physiotherapy techniques used to clear airway secretions: Positioning, Postural Drainage, Chest wall manipulation, Forced Expiratory techniques, Active Cycle of Breathing Techniques, Autogenic drainage, Positive Expiratory Pressure, IPPB, physiotherapy techniques used for improving lung volume: The physiological mechanism Indications, Contra indications, precautions and evidence pertaining to physiotherapy techniques used for improving lung volume, Deep Breathing Exercise, Thoracic expansion exercise, Sustained maximal Inspiration, IPPB, CPAP.	

UNIT III : Physiotherapy Techniques Used For Reducing Breathlessness	15 Hrs.
Explain the physiology mechanism: indication, contraindication, precautions and evidence pertaining to physiotherapy techniques used for reducing breathlessness and Demonstrate physiotherapy techniques used to reducing breathlessness, Relaxation positions, Breathing control techniques, Pacing techniques, Adjuncts used in respiratory physiotherapy care Explain the physiological mechanism Indications, Contra indications, precautions and evidence pertaining to adjuncts, and demonstrate skills in selecting and administering, Humidification therapy, Aerosol therapy, Oxygen therapy.	

UNIT IV: Respiratory Disorders	15 Hrs.
Demonstrate skills in assessing and identifying impairments: activity limitations and participatory restrictions in clients with respiratory disorders (Acute exacerbations and chronic), Asthma, COPD, Interstitial lung disease, Bronchiectasis, Pneumonia, Pleural disorders, Priorities physiotherapy related problems :based on the assessment in providing respiratory care, Plan physiotherapy care with rationale for the identified problems in respiratory care, Demonstrate skills in providing physiotherapy care for the identified problems in clients with respiratory disorders,	

UNIT V: Pulmonary Surgeries and Rehabilitation**15 Hrs.**

Demonstrate skills in assessing and identifying impairments: activity limitations and participatory restrictions in clients undergone pulmonary surgeries & Demonstrate skills in providing physiotherapy care for the identified problems in clients undergone pulmonary surgeries , Lung volume reduction, Lung transplantation , Pleural surgeries, **Pulmonary Rehabilitation:** Define Pulmonary Rehabilitation, Discuss the need for pulmonary rehabilitation, Explain the components of Pulmonary Rehabilitation, demonstrate skills in performing physiotherapy assessment in clients referred for pulmonary rehabilitation, Subjective assessment, Physical examination, Exercise testing, Respiratory muscle testing, prescribe exercise based on the assessment for the clients in pulmonary rehabilitation programme.

Total Hours: 75**TEXT BOOKS:**

1. Cash's Textbook for Physiotherapists in Chest, Heart & Vascular diseases
2. Cash's text book in General Medicine & Surgical conditions for Physiotherapists
3. Chest Physical therapy & pulmonary rehabilitation -- Donna Frown Filter
4. Brompton's hospital guide
5. Physiotherapy in respiratory and cardiac problem - Pryor and Prasad

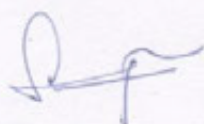
REFERENCE BOOKS:

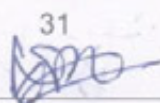
1. Exercise & the Heart –Wenger
2. ECG – P.J.Mehta
3. Cardiopulmonary Physical Therapy -- IrwinScott
4. Essential of cardio pulmonary physical therapy – Hillgass And Sodosky
5. Exercise physiology, energy, nutrition and human performance – M'cardle

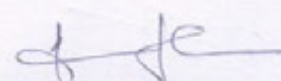
WEB REFERENCES :

1.	https://www.heart.org/?utm_source=chatgpt.com
2.	https://www.physio-pedia.com/Cardiopulmonary_Physiotherapy?utm_source=chatgpt.com
3.	https://www.nice.org.uk/guidance?utm_source=chatgpt.com
4.	https://www.nice.org.uk/guidance?utm_source=chatgpt.com
5.	https://www.nice.org.uk/guidance?utm_source=chatgpt.com

K. N. Jera
BoS Chairman



31




U23PT7P06	Physiotherapy in Adult and Paediatric Cardiac Thoracic Conditions and Surgical Conditions (PTCT) - I	L	T	P	C	Total
		0	0	4	2	60

COURSE OUTCOMES:

After completion of the course, the students will be able to

CO1 :	Demonstrate proficiency in selecting and performing evidence-based, airway clearance techniques to facilitate secretion removal and improve pulmonary function.
CO2 :	Apply appropriate lung expansion techniques to improve ventilation, lung volumes, and respiratory efficiency in patients with cardiorespiratory disorders.
CO3 :	Demonstrate the use of breathing control, relaxation, and pacing techniques to effectively reduce breathlessness and enhance functional capacity.
CO4 :	Select and safely administer appropriate respiratory adjunct therapies, including humidification, aerosol therapy, and oxygen therapy, as part of comprehensive physiotherapy management.

UNIT I : Physiotherapy techniques used for airway secretions	15 Hrs.
1. Positioning 2. Postural Drainage 3. Chest wall manipulation 4. Forced Expiratory techniques 5. Active Cycle of breathing techniques 6. Autogenic drainage 7. Positive Expiratory Pressure 8. IPPB	

32

UNIT II : Physiotherapy techniques used for improving lung volume	15 Hrs.
1. Deep Breathing Exercise 2. Thoracic expansion exercise 3. Sustained maximal Inspiration 4. IPPB 5. CPAP	

UNIT III: Physiotherapy techniques used for reducing breathlessness	15 Hrs.
1. Relaxation positions 2. Breathing control techniques 3. Pacing techniques	

UNIT IV: Adjuncts used in respiratory physiotherapy care	15 Hrs.
1. Humidification therapy 2. Aerosol therapy 3. Oxygen therapy	

Total Hours: 60

TEXT BOOKS :	
1.	Cash's Textbook for Physiotherapists in Chest, Heart & Vascular diseases
2.	Cash's text book in General Medicine & Surgical conditions for Physiotherapists
3.	Chest Physical therapy & pulmonary rehabilitation -- Donna Frown Filter
4.	Brompton's hospital guide
5.	Physiotherapy in respiratory and cardiac problem - Pryor and Prasad

REFERENCE BOOKS :

1.	Exercise & the Heart –Wenger
2.	ECG – P.J.Mehta
3.	Cardiopulmonary Physical Therapy -- IrwinScott
4.	Essential of cardio pulmonary physical therapy –Hillgass And Sodosky
5.	Exercise physiology, energy, nutrition and human performance –M'cardle

WEB REFERENCES :

1.	https://www.heart.org/?utm_source=chatgpt.com
2.	https://www.physio-pedia.com/Cardiopulmonary_Physiotherapy?utm_source=chatgpt.com
3.	https://www.nice.org.uk/guidance?utm_source=chatgpt.com
4.	https://www.nice.org.uk/guidance?utm_source=chatgpt.com
5.	https://www.nice.org.uk/guidance?utm_source=chatgpt.com

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BoS Chairman

U23PT7T07	Sports Physiotherapy and Exercise Prescription (PTS) -I	L	T	P	C	Total
		5	0	0	5	75

COURSE OUTCOMES:

After completion of the course, the students will be able to

CO1 :	Explain the importance of sports in health promotion, classify different types of sports, and describe the role of the physiotherapist in sports and their social and economic significance.
CO2 :	Identify various types of sports injuries, explain the stages of soft tissue healing, and apply appropriate treatment principles during the acute, subacute, and chronic stages.
CO3 :	Analyze the causes and risk factors of sports injuries and demonstrate knowledge of injury prevention strategies, including active and passive measures and the use of protective equipment.
CO4 :	Assess and describe the physiotherapy management of common sports-related musculoskeletal injuries affecting the upper and lower limbs.
CO5 :	Demonstrate essential sports physiotherapy techniques, including taping, bandaging, safe transfer of injured athletes, cardiopulmonary resuscitation (CPR), and recovery methods.

UNIT I : Introduction to Sports	15 Hrs.
Importance of sports in health promotion: Importance of sports in health promotion, types of sports, Contact, Non-contact, Team sports, Individual sports, Social economic importance of sports, Role of Physiotherapist in sports.	

UNIT II : Sports Injuries	15 Hrs.
Sports injuries: types, Acute overuse, Soft tissue injury, Stages of healing, Principles of Treatment for soft tissue injuries- Acute, Sub acute and chronic stages.	

UNIT III : Safe Participation	15 Hrs.
Safe participation: causes, risk factors of sports injuries, principles of Prevention of injuries in sports and physical activities, levels of prevention, methods of prevention- active measures passive measures, protective equipment.	

UNIT IV: Management of Common Sports Injuries	15 Hrs.
Management of Common sports injuries: sprain, strain, contusion, laceration, Lateral ligament sprain of ankle, Rotator cuff injuries., Collateral and Cruciate injuries of knee Meniscal injuries of knee, Supraspinatus and Bicipital tendonitis, Pre patellar and Sub-acromial bursitis, Tennis and Golfer's elbow, Hamstring strains, Quadriceps contusion, TA rupture, Dequervain's tenosynovitis, Trigger and Mallet finger, Plantar fasciitis, Wrist sprains.	

UNIT V: Techniques of sports physiotherapy	15 Hrs.
Techniques of sports physiotherapy: Taping, bandaging, Moving the injured participant stretcher use, Cardio Pulmonary Resuscitation, Causes of Collapse and Treatment of collapsed athlete, recovery methods.	

Total Hours: 75

TEXT BOOKS :	
1.	Brunker and Khan: Clinical Sports Medicine, McGraw Hill.
2.	Zulunga et al: Sports Physiotherapy, W.B. Saunders.
3.	Reed: Sports Injuries – Assessment and Rehabilitation, W.B. Saunders.
4.	Norris: Sports Injuries – Diagnosis and Management for Physiotherapists, Heinmann

REFERENCE BOOKS :	
1.	Morris B. Mellion: Office Sports Medicine, Hanley & Belfus.
2.	Bartlett R. Introduction to sports biomechanics: Analysing human movement patterns. Routledge;2007 Oct25.
3.	William D. McArdle, Frank I.Katch, Victor L. Katch Astrand, P.-O. and Rodahl, K. Text book of Work Physiology Physiological basis of exercise
4.	Fu and Stone: Sports Injuries: Mechanism, Prevention and Treatment, Williams and Wilkins.
5.	D. Kulund: The Injured Athlete, Lippincott.

WEB REFERENCES :

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| 1. | https://www.acsm.org/?utm_source=chatgpt.com |
| 2. | https://bjsm.bmj.com/?utm_source=chatgpt.com |
| 3. | https://pubmed.ncbi.nlm.nih.gov/?term=sports+physiotherapy&utm_source=chatgpt.com |
| 4. | https://world.physio/?utm_source=chatgpt.com |
| 5. | https://www.nsea.com/?utm_source=chatgpt.com |

K. N. Teera
BoS Chairman

U23PT7P07	Sports Physiotherapy and Exercise Prescription(PTS)-I	L	T	P	C	Total
		0	0	4	2	60

COURSE OUTCOMES:

After completion of the course, the students will be able to

CO1 :	Conduct pre-participation sports examinations to identify risk factors and determine an individual's fitness for safe participation in sports.
CO2 :	Demonstrate appropriate acute management of sports injuries using evidence-based first aid and emergency care principles.
CO3 :	Apply sports physiotherapy techniques, including bandaging, taping, and exercise prescription, to manage common sports injuries based on impairments and activity limitations

UNIT I : Sports Examination	20 Hrs.
Pre-participation examination for risk factor identification	

UNIT II : Sports Management	20 Hrs.
Acute management of sports injuries	

UNIT III: Sports Physiotherapy	20 Hrs.
Apply bandaging and taping for common sports injuries, Plan exercise programme based on impairment and activity limitation	

Total Hours: 60

TEXT BOOKS :	
1.	Brunker and Khan: Clinical Sports Medicine, McGraw Hill.
2.	Zulunga et al: Sports Physiotherapy, W.B. Saunders.
3.	Reed: Sports Injuries – Assessment and Rehabilitation, W.B. Saunders.
4.	Norris: Sports Injuries – Diagnosis and Management for Physiotherapists, Heinmann

REFERENCE BOOKS :

1.	Morris B. Mellion: Office Sports Medicine, Hanley & Belfus.
2.	Bartlett R. Introduction to sports biomechanics: Analysing human movement patterns. Routledge;2007 Oct25.
3.	William D. McArdle, Frank I.Katch, Victor L. KatchAstrand, P.-O. and Rodahl,K. Text book of Work Physiology Physiological basis of exercise
4.	Fu and Stone: Sports Injuries: Mechanism, Prevention and Treatment, Williams andWilkins.
5.	D. Kulund: The Injured Athlete, Lippincott.

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2.	https://bjsm.bmj.com/?utm_source=chatgpt.com
3.	https://pubmed.ncbi.nlm.nih.gov/?term=sports+physiotherapy&utm_source=chatgpt.com
4.	https://world.physio/?utm_source=chatgpt.com
5.	https://www.nsca.com/?utm_source=chatgpt.com

K. N. Jena
BoS Chairman

U23PT7P08	Project Work(PW) - I	L	T	P	C	Total
		3	0	6	3	45

1. The candidate shall submit a project under the supervision of a Physiotherapy faculty during internship. The project may be a case study or of recent technique or literature reviews and etc. to make the student to have research mind and to facilitate for higher studies.
2. The interns shall maintain the record of work which is to be verified and certified by the Physiotherapy faculty under whom he/she works. Based on the record of work and project, The Internship completion shall be reported in the form of grades by the HOD/ principle while issuing "Certificate of Satisfactory Completion" of internship following which University shall award the BPT degree.
3. All interneers will be assessed based on their satisfactory attendance, performance in the postings/and the presentation of the logbook and project. The credits and hours of internship will be mentioned in transcript.
4. The internship assessment weightage will be based on following criteria:

Domains (% of the total marks)

- a) Attendance (10%)
- b) Log book
- c) Project (60%) (30%) of the internship assessment

Critique enquiry, case presentation and case discussion Should be the regular part of clinical education from third year on wards

K. N. Jena
BoS Chairman

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U23PT7P09	Clinical Rotation(CLRo)-I	L	T	P	C	Total
		0	0	6	3	120

Students will be posted in rotation in the following areas/wards. The students will be clinically trained to provide physiotherapy care for the patients under supervision. They will be trained on bed side approach, patient assessment, performing special tests, identifying indications for treatment, ruling out contraindications, decision on treatment parameters, dosage and use relevant outcome measures under supervision. Evidence based practice will be part of training.

1. Physiotherapy OPD
2. Neurology, Neurosurgery & Neuro ICU
3. Community-PHC
4. Orthopedics
5. General Medicine & MICU
6. General Surgery & CTS ICU
7. Developmental Pediatrics & Child Guidance Clinic
8. OBG
9. Geriatric – Old Age Homes
10. Industrial Visits - Ergonomics

U23xx7xxx	Generic Elective-V	L	T	P	C	Total
	Food and Nutrition - I	0	0	2	1	30

COURSE OUTCOMES:

After completion of the course, the students will be able to

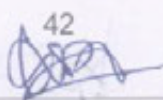
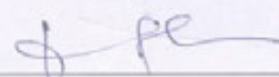
CO1 :	Explain the concepts of nutrition, nutrients, energy, malnutrition, and the role of food in maintaining health.
CO2 :	Describe the importance of nutrition in promoting physical fitness, athletic performance, and sports participation.
CO3 :	Apply the Recommended Dietary Allowances (RDA) and food guide principles to plan a balanced diet using the basic five food groups.
CO4 :	Explain the processes of digestion, absorption, transport, and utilization of nutrients in the human body.
CO5 :	Identify the causes, clinical features, complications, and dietary management of underweight and obesity.

UNIT 1: Introduction to Nutrition	6 Hrs.
Food as a source of nutrients, Functions of food, Definition of nutrition. Nutrients and energy, adequate, optimum and Good nutrition, Malnutrition.	

UNIT 2: Nutrition	6 Hrs.
Fitness, Athletics and Sports	



42

UNIT 3: Food Guide	6 Hrs.
Basic five food groups how to use food guide. (According to R.D.A)	

UNIT 4: Use of Food in Body	6 Hrs.
Digestion, absorption, transport and utilization of nutrients in the body	

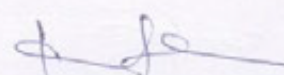
UNIT 5: Weight Management	6 Hrs.
Clinical Symptoms, Complication and Treatment of Underweight, obesity.	

Total Hours: 30

TEXT BOOKS :	
1.	Srilakshmi, B., Nutrition Science, 8th Edition, New Age International Publishers, New Delhi, 2022.
2.	Swaminathan, M., Handbook of Food and Nutrition, 6th Edition, The Bangalore Printing & Publishing Co. Ltd., 2009..
3.	Mudambi, S.R. and Rajagopal, M.V., Fundamentals of Foods, Nutrition and Diet Therapy, 7th Edition, New Age International Publishers, New Delhi, 2019.
4.	Bamji, M.S., Krishnaswamy, K. and Brahmam, G.N.V., Textbook of Human Nutrition, 4th Edition, Oxford & IBH Publishing Co. Pvt. Ltd., 2017.
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43

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2.	Gibney, M.J., Margetts, B.M., Kearney, J.M. and Arab, L., Public Health Nutrition, 2nd Edition, Wiley-Blackwell, 2013.
3.	Mann, J. and Truswell, A.S., Essentials of Human Nutrition, 5th Edition, Oxford University Press, 2017.
4.	Gropper, S.S. and Smith, J.L., Advanced Nutrition and Human Metabolism, 8th Edition, Cengage Learning, 2021..
5.	Williams, M.H., Nutrition for Health, Fitness and Sport, 12th Edition, McGraw-Hill Education, 2020.

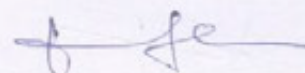
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K.N. Teer
BoS Chairman



44

U23UM7P10	Takshashila Innovative Learning -VII	L	T	P	C	Total
		0	0	2	1	30

COURSE OUTCOMES:

After completion of the course, the students will be able to

CO1 :	Explain the fundamental concepts, principles, and terminology related to the subject.
CO2 :	Apply the acquired knowledge and skills to analyze and solve basic real-world problems.
CO3 :	Evaluate issues from multiple perspectives using critical thinking and logical reasoning.
CO4 :	Demonstrate effective communication, teamwork, and ethical responsibility while addressing interdisciplinary challenges.
CO5 :	Develop self-directed learning abilities and recognize the relevance of the subject in personal, societal, and professional contexts.

WEEKLY PLAN:

Weeks	Topics
Week 1	Introduction to Virtual Reality (VR): Concepts, history, types of VR, and applications in healthcare, Lecture, discussion, introductory video
Week 2	Fundamentals of Immersive VR: Hardware, software, sensors, head-mounted displays (HMDs), controllers, Demonstration of VR devices
Week 3	Basics of Rehabilitation: Principles of physical, neurological, and cognitive rehabilitation, Interactive lecture and case discussion
Week 4	Role of VR in Rehabilitation: Benefits, limitations, evidence-based practice Literature review and group discussion

Weeks	Topics
Week 5	VR for Neurological Rehabilitation: Stroke, Parkinson's disease, spinal cord injury Case studies and VR demonstrations
Week 6	VR in Musculoskeletal Rehabilitation: Balance training, gait training, and upper limb rehabilitation. Practical session using rehabilitation simulations
Week 7	VR for Pediatric Rehabilitation: Cerebral palsy, developmental disorders, and motor skill training Video demonstrations and discussion
Week 8	Mid-Semester Assessment and Review Quiz, assignment presentation, feedback

K. N. Jura
BoS Chairman

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46
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U23UM7P11	Green credit –VII Cultivation Practice of Aromatic Plants	L	T	P	C	Total
		0	0	2	1	30

Course Outcomes

After completion of the course, the students will be able to

CO1 :	Explain the scope, importance, classification, and common types of aromatic plants used in cultivation and industry.
CO2 :	Apply appropriate soil, water, pest, and plant management practices for the effective cultivation and maintenance of aromatic plants.

UNIT I: Introduction	15 Hrs.
Definition and scopes, Importance of Aromatic Plants, Classification of Aromatic Plants, Common Aromatic Plants	

UNIT II: Management Practices	15 Hrs.
Soil management, Pest management, Plant maintenance, Water management	

Total Hours: 60

TEXT BOOKS :	
1.	K.V. Peter (Ed.), Handbook of Herbs and Spices, Vol. 1, Woodhead Publishing, 2nd Edition, 2012.
2.	V.K. Gupta, Medicinal and Aromatic Plants: Cultivation, Production and Uses, CBS Publishers & Distributors, New Delhi, 2008.
3.	H. Panda, Cultivation and Utilization of Aromatic Plants, Asia Pacific Business Press Inc., New Delhi, 2005.

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1.	E.A. Weiss, Essential Oil Crops, CABI Publishing, Wallingford, UK, 2002.
2.	A.K. Singh and S. Raghubanshi (Eds.), Medicinal and Aromatic Plants: Cultivation and Uses, Daya Publishing House, New Delhi, 2010
3.	N.K. Dubey (Ed.), Plants as a Source of Natural Antimicrobials and Food Preservatives, CABI Publishing, 2014.

47

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K.N. Sura
BoS Chairman