

## **PROGRAM NAME: Master of Physiotherapy**

### **PROGRAM OUTCOMES:**

1. To prepare a postgraduate student towards professional autonomy, promote community health through her professional practice by referral as well as first contact mode using evidence based practices.
2. To impart research basis to validate techniques during professional practice towards quality care of health care delivery.
3. To develop appropriate professional relationships in multi-disciplinary set up to provide total care.
4. To update the students with recent evidence in the professional practice and provide them opportunities to think, reason and practice towards excellent care.
5. To achieve skills in patient handling and professional teaching.
6. To train the graduates to execute professional practice through professional ethical code.

### **PROGRAM SPECIFIC OUTCOMES:**

We offer specialization in Musculoskeletal Sciences, Cardiorespiratory Sciences and Neurosciences in the second year of the program.

### **COURSE OUTCOMES**

<b>Sl. No</b>	<b>Semester</b>	<b>Course/module (Code)</b>	<b>Expected outcomes</b>
1	I	APPLIED MEDICAL SCIENCES	1. Acquire the updated knowledge of the patho-anatomy and patho-physiology of the human body. 2.To develop rationale for patient management skills
		APPLIED BIOMECHANICS & KINESIOLOGY	1.Acquire the updated knowledge of the Patho-mechanics of the human movement. 2.Be able to apply the principles of Biomechanics in functional analysis of movement 3.Be able to prescribe the Ergonomic alternations at the work place & industry.
		APPLIED EXERCISE PHYSIOLOGY	1.Acquired the updated knowledge of Exercise Physiology, Testing and Prescription

			<p>2. Acquire the skill of evaluating fitness in normal, diseased and special population and prescribe exercise protocol to improve the same.</p> <p>3. Be able to prescribe &amp; train for general fitness &amp; health promotion for children, pregnant/ lactating females, Obese &amp; elderly subjects.</p> <p>4. Acquire a skill in disability evaluation &amp; will be able to certify the same</p>
		RESEARCH METHODOLGY & BIOSTATISTICS	<p>1. Present data in appropriate methods</p> <p>2. Apply basic concepts of statistics &amp; principles of scientific enquiry in planning and evaluating the results.</p> <p>3. Participate in or conduct descriptive, explorative, survey studies in PT practice.</p>
2	II	ADVANCED ELECTROTHERAPEUTICS & ELECTRODIAGNOSTICS	<p>1. Acquire the updated knowledge of production / biophysics as well as the Physiological / therapeutics effects (at the cellular levels) of various electrical currents, Thermal agents, ultra sound &amp; electro – magnetic forces &amp; potential risk factors on prolonged exposure.</p> <p>2. Acquire the knowledge about various Pharmaco Therapeutic agents to be used in combination with various electro – therapeutic modes, with appropriate clinical decision &amp; reasoning in the management of pain / tissue healing / Wound care &amp; skin conditions.</p> <p>3. Be able to interpret the E.M.G. and nerve conduction studies with appropriate clinical reasoning.</p>
		NORMAL DEVELOPMENT &	<p>1. Understand the basic knowledge of normal development.</p>

		NEUROPHYSIOLOGICAL APPROACHES	<p>2. Acquire the knowledge and skill of various neurophysiological approaches.</p> <p>3. Be able to integrate the approaches to rehabilitate patients with various disorders.</p>
		MANUAL MEDICINE	<p>1. Acquire the knowledge and skill of various approaches of Manual therapy for joints of the limbs / spine.</p> <p>2. Be able to integrate various approaches of manual medicine to rehabilitate patients with various disorders and dysfunctions</p>
		BIOENGINEERING ETHICS, ADMINISTRATION & MANAGEMENT	<p>1. Be able to apply the principles of Biomechanics in prostheses and orthosis.</p> <p>2. Be able to prescribe, check out &amp; train in the application of lower limb upper prostheses, Spinal / lower / upper extremity Orthoses used as mobility aids.</p> <p>3. Be able to fabricate, temporary hand splints and functional splints for gait training.</p>
3	III (Specialization in Musculoskeletal Sciences)	ADVANCES IN MANUAL THERAPY & PAIN MANAGEMENT	<p>1. To understand the theories and various concepts of pain.</p> <p>2. Learn the ability to perform an appropriate subjective and physical examination, with development of suitable analytical skills to evaluate data obtained.</p> <p>3. Document patients with scale, outcome measures and asses the progression.</p> <p>4. Apply the evidence based and recent therapeutic techniques for the management of pain.</p> <p>5. Acquire the knowledge and skill of various approaches of manual therapy for joints of the limbs/spine.</p> <p>6. Be able to integrate the manual therapies to rehabilitate the mechanical neuromuscular problems.</p>

			7. Be able to impart knowledge and train the undergraduate in manual therapy.
		ADVANCES IN PHYSICAL THERAPY IN ORTHOPAEDIC MEDICINE	<p>1. To understand and learn the concepts of surgical and conservative management of soft tissue and rheumatic conditions.</p> <p>2. Learn the ability to perform an appropriate subjective and physical examination, with development of suitable analytical skills to evaluate data obtained.</p> <p>3. Further develop clinical reasoning that incorporates theoretical concept with evidence-based practice in the field of musculoskeletal physiotherapy.</p> <p>4. Document patients with scale, outcome measures and asses the progression.</p> <p>5. Use recent Technique/ approaches to treat &amp; train patients with musculo-skeletal deficit in children, adults &amp; geriatrics.</p> <p>6. Further develop clinical reasoning that incorporates theoretical concept with evidence-based practice in the field of hand rehabilitation.</p> <p>7. Recognize the implication of dysfunction on the neuro-musculoskeletal system on hand function and the student's clinical decision making for rehabilitation.</p> <p>8. Asses and diagnose all possible findings on the patient to plan a Rehabilitation program.</p> <p>9. Lay down rehabilitation protocol for sports specific hand injuries focusing an early rehabilitation to injuries.</p> <p>10. Identify the causes prone for injury &amp; prevent them.</p> <p>11. Be able to identify, discuss &amp; analyse, the Hand dysfunction in terms of</p>

			<p>Biomechanical, Kinesiological and Biophysical basis &amp; co-relate the same with the provisional diagnosis, routine radiological &amp; Electro-physiological investigations and arrive at appropriate functional diagnosis with clinical reasoning.</p> <p>12. Use the anatomical rationale for the clinical tests used in differential diagnosis.</p> <p>13. Learn the ability to perform an appropriate subjective and physical examination, with development of suitable analytical skills to evaluate data obtained.</p> <p>14. Further develop clinical reasoning that incorporates theoretical concept with evidence-based practice in the field of hand rehabilitation.</p>
4	III (Specialization in Neurosciences)	APPLIED NEUROSCIENCES	<p>1. To have an in depth knowledge about the normal and pathological alterations of the nervous system.</p> <p>2. To understand the normal development of a child.</p>
		MOTOR CONTROL & MOTOR LEARNING	<p>1. To understand the theories of motor control and motor learning and its application into clinical practice.</p>
4	III (Specialization in Cardiorespiratory Sciences)	APPLIED CARDIOVASCULAR & RESPIRATORY PHYSIOLOGY	<p>1. To have an in depth knowledge upon the normal anatomy and pathological alterations of the cardio vascular and respiratory system.</p> <p>2. Document patients with scale, outcome measures, electro</p>

			<p>diagnostic procedures and assess the progression.</p> <p>3. Use recent techniques to examine for various medical and surgical conditions.</p> <p>4. Perform exercise testing for children, adults, old age, and geriatrics, for various diseases using various protocols, methods &amp; techniques – interpretation of exercise testing.</p> <p>5. Perform exercise prescription for health and fitness with special emphasis to cardiorespiratory disease, obesity and diabetes.</p> <p>6. Apply of principles of exercise physiology in management of movement dysfunction in illness or disease in special populations e.g. the central neural vs. peripheral limitations to exercise or occupation-related performance in individuals with disease and dysfunction.</p>
		<p><b>PHYSICAL THERAPY IN INTENSIVE CARE UNIT</b></p>	<p>1. Be able to identify, discuss &amp; analyse, the various cardio-respiratory dysfunction &amp; correlate the same with the provisional diagnosis, routine radiological &amp; Electro-physiological investigations and arrive at appropriate functional diagnosis with clinical reasoning.</p> <p>2. Use the anatomical rationale for the clinical tests used in differential diagnosis.</p> <p>3. Learn the ability to perform an appropriate subjective and physical examination, with development of suitable analytical skills to evaluate data obtained.</p> <p>4. Further develop clinical reasoning that incorporates theoretical concept with evidence-based practice in the field of cardio-pulmonary physiotherapy.</p>

			<p>5. Document patients with scale, outcome measures and asses the progression.</p> <p>6. Use recent Technique/ approaches to treat &amp; train patients with cardio-respiratory dysfunction in children, adults &amp; geriatrics.</p> <p>7. Be able to identify, discuss &amp; analyze, the various cardio-respiratory dysfunction &amp; co-relate the same with the provisional diagnosis, routine radiological &amp; Electro-physiological investigations and arrive at appropriate functional diagnosis with clinical reasoning.</p> <p>8. Learn the ability to perform an appropriate subjective and physical examination, with development of suitable analytical skills to evaluate data obtained.</p> <p>9. Document patients with scale, outcome measures and asses the progression.</p> <p>10. Use various recent techniques for the management of critically ill patients.</p> <p>11. Provide emergency care with the multidisciplinary team.</p>
6	Semester IV (Specialization in Musculoskeletal Sciences)	ADVANCES IN PHYSICAL THERAPY IN TRAUMA	<p>1. To understand and learn the concepts and principles of surgical and conservative management of traumatic injuries.</p> <p>2. To have an in depth knowledge of the various surgical interventions.</p> <p>3. Learn the ability to perform an appropriate subjective and physical examination, with development of suitable analytical skills to evaluate data obtained.</p> <p>4. Further develop clinical reasoning that incorporates theoretical concept with evidence-based practice in the</p>

			<p>field of musculoskeletal physiotherapy.</p> <p>5. Document patients with scale, outcome measures and assess the progression.</p> <p>6. Use recent Technique/ approaches to treat &amp; train patients with musculo-skeletal deficit in children, adults &amp; geriatrics.</p> <p>7. Be able to impart knowledge for training the under graduate students.</p>
		<p><b>SPORTS MEDICINE &amp; REHABILITATION</b></p>	<p>1. Understand the psychosocial factors, environmental factors &amp; individual factors affecting the performance.</p> <p>2. Be able to identify, discuss &amp; analyse, the Musculo skeletal dysfunction in terms of Biomechanical, Kinesiological and Biophysical basis &amp; co-relate the same with the provisional diagnosis, routine radiological &amp; Electro-physiological investigations and arrive at appropriate functional diagnosis with clinical reasoning for fitness training &amp; rehabilitation.</p> <p>3. Use the anatomical rationale for the clinical tests used in differential diagnosis.</p> <p>4. Be able to identify, discuss &amp; analyse, the various cardio-respiratory function &amp; co-relate the same with the provisional diagnosis, for fitness training &amp; rehabilitation.</p> <p>5. Lay down rehabilitation protocol for sports specific injuries focusing an early rehabilitation to injuries.</p> <p>6. Identify the causes prone for injury &amp; prevent them.</p> <p>7. Guide participants for a confident sports activity &amp; rehabilitation to attain maximal achievement.</p>

			8. Understand the role of Sports physiotherapist in the team.
Semester IV (Specialization in Neurosciences)	PHYSICAL THERAPY IN NEUROMEDICAL DISORDERS		<ol style="list-style-type: none"> <li>1. Asses and diagnose all possible findings on the patient to plan a rehabilitation program.</li> <li>2. Document patients with scale, outcome measures and asses the progression.</li> <li>3. Use recent technique/ approaches to treat &amp; train patients with neurological deficit.</li> </ol>
	PHYSICAL THERAPY IN NEUROSURGICAL DISORDERS		<ol style="list-style-type: none"> <li>1. Asses &amp; plan management program for critical care patients in I.C.U.</li> <li>2. Plan management program with response to drop &amp; its complication, monitoring lines.</li> <li>3. Understanding, behavior &amp; counseling of the patients in ICU, surgery, following Neurological deficit, behavioral problem.</li> <li>4. Provide emergency care with the multidisciplinary team. Assess and diagnose all possible findings on the patient to plan a rehabilitation program.</li> <li>5. Document patients with scale, outcome measures, electro diagnostic procedures and asses the progression.</li> <li>6. Use recent techniques/ approaches to treat &amp; train children with neurological, orthopaedic &amp; cardiorespiratory deficits.</li> <li>7. Provide emergency care with the multidisciplinary team.</li> </ol>
Semester IV (Specialization in Cardiorespiratory Sciences)	PHYSICAL THERAPY IN CARDIOVASCULAR DISORDERS		Exercise testing and prescription for a patient with cardiac condition.

		<b>PHYSICAL THERAPY IN RESPIRATORY DISORDERS</b>	1.Exercise testing and prescription for a patient with respiratory condition.
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