



# **NANDHA COLLEGE OF PHYSIOTHERAPY**

## **PROGRAMME NAME**

### **MASTER OF PHYSIOTHERAPY PROGRAMME**

#### **Program Outcomes**

PO 1- Ability to adopt physical therapy services by using theoretical and practical knowledge with consideration for patient in clinical judgement.

PO 2- Develop physiotherapy skills in diagnosing different conditions by assessing, planning and rehabilitating patient and further follow up evaluation.

PO 3- Apply principles and professional ethics and responsibilities in physiotherapy practice

PO 4- Analyze and undertake data for research purpose and its documentation for long life learning in physiotherapy

PO 5- Develop educational experience for proficiency in profession and promote preventive and rehabilitative aspect on the society

#### **Program Specific Outcomes for Master of Physiotherapy**

**PSO 1** Critically evaluate, prioritize and apply physiotherapy approaches, paradigms and techniques and utilize appropriate, evidence-based skills, techniques and practice in managing and treating people with injury, disability or illness in a range of health care and/or rehabilitation settings.

**PSO 2** Identify, analyze and respond appropriately to ethical dilemmas and challenges, and ethical implications of patient/client presentations.

**PSO 3** Develop a reasoned rationale for clinical evidence-based physiotherapy intervention and design appropriate treatment/management plans to meet the needs of patients/clients within legislative, policy, ethical, funding and other constraint.

**PSO 4** Acquire and utilize new knowledge, research, technologies and other appropriate resources and methods to optimize, and to ensure cost-effectiveness, quality and continuous improvement of health care delivery and outcomes.

**PSO 5** Prepare students for professional practice as Physiotherapists. Graduates will be able to practice across a range of settings, including rural and remote areas. Emphasis will be placed on

preparing a contemporary health professional to be client-centered and to work effectively within an interdisciplinary team.

**PSO 6** Work creatively and effectively whilst upholding professional standards and relationships with a range of stakeholders (including clients, colleagues, careers, families, employers, insurers and others whose presence impacts on the patient/client, and other treatment providers and team members) with different understandings, perspectives and priorities influencing physiotherapy practice.

**PSO 7** Adapt communication styles recognizing cultural safety, cultural and linguistic diversity

## **PAPER I APPLIED BASIC SCIENCES**

### **BIOMECHANICS AND PATHOMECHANICS**

#### **COURSE OUTCOMES**

**CO1-** An appreciation of the team approach to learning in complex areas.

**CO2-** The ability to critically evaluate research literature in the area of anatomy, functional applied anatomy, and apply this information towards understanding the mechanisms operating in musculoskeletal conditions resulting from injury or disease.

**CO3-**An appreciation of the importance of, and development of, good written and presentation skills to aid group learning.

**CO4-** An appreciation of the team approach to learning in complex areas.

### **EXERCISE PHYSIOLOGY AND NUTRITION**

#### **COURSE OUTCOMES**

**CO1-**An appreciation of the team approach to learning in complex areas

**CO2-** An appreciation of the need for intercultural sensitivity and understanding particularly of different learning styles.

**CO3-**An appreciation of the importance of and development of, good written and verbal communication skills to articular knowledge in exercise and electro physiology.

**CO4-** The ability to evaluate and synthesize research and professional literature and apply this information to novel situations.

### **ERGONOMICS**

## **COURSE OUTCOMES**

**CO1-** Understanding of the fundamental principles of ergonomics, including its definition, history, and importance in various fields such as workplace design, product design, and healthcare.

**CO2-** Understanding how humans interact with their environment and how ergonomic design can optimize this interaction.

**CO3-** Recognizing factors that can lead to musculoskeletal disorders (MSDs) and other ergonomic-related injuries.

## **RESEARCH METHODOLOGY & BIOSTATISTICS**

### **COURSE OUTCOMES**

**CO 1** - Understand the statistical measures used analysis and interpretation of research data

**CO 2** - able to apply the information on research design and their implementation

**CO 3** - Identify to read critique research articles and understand and apply the principles of research to perform a guided research.

## **PAPER II PHYSIOTHERAPEUTICS**

### **MANUAL THERAPY**

#### **COURSE OUTCOMES**

**CO1-** Understanding of the principles underlying manual therapy techniques, including anatomy, biomechanics, neurophysiology, and tissue healing.

**CO2-** To evaluate musculoskeletal dysfunction, including range of motion, joint mobility, muscle strength, tissue texture, and pain patterns.

**CO3-** Acquire proficiency in a variety of manual therapy techniques, such as joint mobilization, manipulation, soft tissue mobilization, myofascial release, trigger point therapy, and stretching exercises.

### **EXERCISE THERAPY**

#### **COURSE OUTCOMES**

**CO1-** Learn the principles, technique and effects of exercise as a therapeutic modality in the restoration of physical function.

**CO2-** Analyse the various types of therapeutic exercises, movements and demonstrate different techniques and describe their effects.

**CO3-** Practice different exercise therapy techniques and gain confidence in performing these skills before implementing the same on the patients so that high quality patient care is ensured.

### **ELECTROTHERAPY**

#### **COURSE OUTCOMES**

**CO1-** Aware of the construction, Biophysical principles and effects , dangers, safety measures, judicial use, appropriate methods of application ,contraindications of the various low frequency equipments.

**CO2-**Practice evidence based physiotherapy

**CO3-**Practice towards Scientific excellence.

### **ELECTROPHYSIOLOGY**

#### **COURSE OUTCOMES**

**CO1-** To Appraise the role of therapeutic modalities in rehabilitation.

**CO2-** Comprehend the indications and contra-indications to electrotherapy modalitis.

**CO3-** To formulate the most appropriate electrotherapy modality to use in a clinical.

### **PAPER I PHYSIOTHERAPY ASSESSMENT (MPT ORTHOPAEDIC)**

#### **ANATOMY AND PHYSIOLOGY**

##### **COURSE OUTCOMES**

**CO1-** Analyze the movements, structures of various joints ,muscles and its mechanisms . CNS trans – sections, course of peripheral nerves & mechanism of Respiration.

**CO2-** Application of knowledge of anatomy on the living.

**CO3-** Describe physiological functions of various systems like – Musculo-skeletal. Neuro-motor, cardio-respiratory, endocrine & Uro-genital function.

#### **CLINICAL CONDITION**

##### **COURSE OUTCOMES**

**CO1-** Understanding of the patho physiological mechanisms underlying a wide range of clinical conditions, including their etiology, pathogenesis, and progression.

**CO2-** Recognize the signs and symptoms associated with different clinical conditions, as well as develop proficiency in diagnostic methods such as medical history-taking, physical examination, laboratory tests, imaging studies, and differential diagnosis.

**CO3-** To know the principles of treatment and management for various clinical conditions, including pharmacological interventions, surgical procedures, rehabilitation techniques, lifestyle modifications, and preventive measures.

## **PHYSIOTHERAPY ASSESSMENT**

### **COURSE OUTCOMES**

**CO1-** Understanding of the principles underlying physiotherapy assessment, including the importance of obtaining a thorough patient history, conducting appropriate physical examinations, and utilizing relevant assessment tools and measures.

**CO2-** Develop skills in eliciting comprehensive patient histories, including information related to the onset, duration, and progression of symptoms, past medical history, medications, lifestyle factors, and relevant psychosocial factors.

**CO3-** To acquire proficiency in conducting systematic physical examinations to assess patients' musculoskeletal, neurological, cardiopulmonary, and functional status. This may include assessing range of motion, muscle strength, sensation, reflexes, balance, gait, posture, cardiovascular fitness, and respiratory function.

## **PAPER I PHYSIOTHERAPY ASSESSMENT (MPT NEUROLOGY )**

### **ANATOMY AND PHYSIOLOGY**

#### **COURSE OUTCOMES**

**CO1-** Analyze the movements, structures of various muscles and its mechanisms . CNS trans – sections, course of peripheral nerves .

**CO2-** Application of knowledge of anatomy on the living.

**CO3-** Describe physiological functions of various systems like –. Neuro-motor, co ordination ,balance and equilibrium & Uro-genital function

### **CLINICAL CONDITION**

#### **COURSE OUTCOMES**

CO1- Helps to recognize role in stroke rehabilitation, focusing on improving mobility, balance, coordination, and activities of daily living (ADLs).

CO2- To recognize with intensive rehabilitation including task-specific training, gait training, balance exercises, and neuromuscular re-education, stroke survivors can often achieve significant improvements in functional abilities and quality of life.

## **PHYSIOTHERAPY ASSESSMENT**

### **COURSE OUTCOMES**

**CO1-** Understanding of the principles underlying physiotherapy assessment, including the importance of obtaining a thorough patient history, conducting appropriate physical examinations, NCV test and utilizing relevant assessment tools and measures.

**CO2-** Develop skills in eliciting comprehensive patient histories, including information related to the onset, duration, and progression of symptoms, past medical history, medications, lifestyle factors, and relevant psychosocial factors.

**CO3-** To acquire proficiency in conducting systematic physical examinations to assess patients', neurological, and functional status. This may include assessing muscle tone, muscle strength, sensation, reflexes, balance, gait, posture.

## **PAPER I PHYSIOTHERAPY ASSESSMENT (MPT CARDIO RESPIRATORY )**

### **ANATOMY AND PHYSIOLOGY**

#### **COURSE OUTCOMES**

**CO1-** Analyze the movements, structures of heart and lungs. Mechanism of Respiration and its functions

**CO2-** Application of knowledge of anatomy on the living.

**CO3-** Describe physiological functions of various systems like –cardio-respiratory, function.

### **CLINICAL CONDITION**

#### **COURSE OUTCOMES**

**CO1-** Understanding of the patho physiological mechanisms underlying a wide range of clinical conditions, including their etiology, pathogenesis, and progression.

**CO2-** Recognize the signs and symptoms associated with different clinical conditions, as well as develop proficiency in diagnostic methods such as medical history-taking, physical examination, laboratory tests, imaging studies, and differential diagnosis.

**CO3-** To know the principles of treatment and management for various clinical conditions, including pharmacological interventions, surgical procedures, rehabilitation techniques, lifestyle modifications, and preventive measures.

## **PHYSIOTHERAPY ASSESSMENT**

### **COURSE OUTCOMES**

**CO1-** Understanding of the principles underlying physiotherapy assessment, including the importance of obtaining a thorough patient history, conducting appropriate physical examinations, and utilizing relevant assessment tools and measures.

**CO2-** Develop skills in eliciting comprehensive patient histories, including information related to the onset, duration, and progression of symptoms, past medical history, medications, lifestyle factors, and relevant psychosocial factors.

**CO3-** To acquire proficiency in conducting systematic physical examinations to assess patients', cardiopulmonary, and functional status. This may include assessing muscle strength, cardiovascular fitness, and respiratory function.

## **PAPER I PHYSIOTHERAPY ASSESSMENT (MPT SPORTS )**

### **ANATOMY AND PHYSIOLOGY**

#### **COURSE OUTCOMES**

**CO1-** Analyze the movements, structures of various joints ,muscles and its mechanisms of knee ,hip, spine .

**CO2-** Application of knowledge of anatomy on the living.

**CO3-** Describe physiological functions of systems like – Musculo-skeletal

### **CLINICAL CONDITION**

#### **COURSE OUTCOMES**

**CO1-** Understanding of the patho physiological mechanisms underlying a wide range of clinical conditions, including their etiology, pathogenesis, and progression.

**CO2-** Recognize the signs and symptoms associated with different clinical conditions, as well as develop proficiency in diagnostic methods such as medical history-taking, physical examination, laboratory tests, imaging studies, and differential diagnosis.

**CO3-** To know the principles of treatment and management for various clinical conditions, including pharmacological interventions, surgical procedures, rehabilitation techniques, lifestyle modifications, and preventive measures.

## **PHYSIOTHERAPY ASSESSMENT**

### **COURSE OUTCOMES**

**CO1-** Understanding of the principles underlying physiotherapy assessment, including the importance of obtaining a thorough patient history, conducting appropriate physical examinations, and utilizing relevant assessment tools and measures.

**CO2-** Develop skills in eliciting comprehensive patient histories, including information related to the onset, duration, and progression of symptoms, past medical history, medications, lifestyle factors, and relevant psychosocial factors.

**CO3-** To acquire proficiency in conducting systematic physical examinations to assess patients' musculoskeletal, functional status. This may include assessing range of motion, muscle strength, posture, cardiovascular fitness, and respiratory function, aerobics and endurance capacity .

## **PAPER II PHYSIOTHERAPY INTERVENTION**

### **MPT ORTHOPEDIC PHYSIOTHERAPY**

#### **FOUNDATIONAL CONCEPTS AND CONDITION MANAGEMENT**

### **COURSE OUTCOMES**

**CO1** - To develop a solid understanding of the foundational concepts underlying physiotherapy practice, including anatomy, physiology, biomechanics, kinesiology, and exercise physiology.

**CO2-** To acquire proficiency in conducting comprehensive assessments of patients with various musculoskeletal, , and other conditions. This includes obtaining thorough patient histories, performing systematic physical examinations, and utilizing relevant assessment tools and measures.



**CO3-** To develop clinical reasoning skills to interpret assessment findings, formulate differential diagnoses, and develop evidence-based management plans for patients with complex conditions.

## **SPECIAL TECHNIQUES**

### **COURSE OUTCOMES**

**CO1-** Understanding of the principles, indications, contraindications, and physiological effects of specialized physiotherapy techniques, including manual therapy, therapeutic exercises, electrotherapy, hydrotherapy, thermotherapy, cryotherapy, and other adjunctive modalities

**CO2-** To acquire proficiency in applying specialized physiotherapy techniques safely, effectively, and with appropriate patient selection.

**CO3-** To develop clinical reasoning skills to select and customize specialized techniques based on patients' individual needs, goals, preferences, and clinical presentation.

## **MPT CARDIOPULMONARY PHYSIOTHERAPY**

### **FOUNDATIONAL CONCEPTS AND CONDITION MANAGEMENT**

#### **COURSE OUTCOMES**

CO 1 - Ability to understand of principle of physiotherapy management in disorders of nervous system and the application of principles of specific disorders.

CO 2 - Acquire the knowledge through lecture, case presentation, journal discussion and class discussion and setup a treatment program tailor to the patients needs MPT Cardiopulmonary Conditions

CO 3 - Ability to have the information on epidemiology, clinical presentation, relevant diagnostic test medical and surgical management of disorders of musculoskeletal system

CO 4- Ability to use theoretical and practical information in planning and tailoring effective, specific and safe physiotherapy treatment program.

## **SPECIAL TECHNIQUES**

### **COURSE OUTCOMES**

**CO1-** Pulmonary rehabilitation programs incorporate a multidisciplinary approach, including exercise training, education, and psychosocial support.

**CO2-** To optimize the functional status and quality of life of individuals with chronic respiratory conditions.

**CO3-** Helps to recognize exercise capacity, enhanced self-management skills, reduced hospitalizations, and improved overall well-being.

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## **MPT NEUROLOGY PHYSIOTHERAPY**

### **FOUNDATIONAL CONCEPTS AND CONDITION MANAGEMENT**

CO 1 - Ability to have the information on epidemiology, clinical presentation, relevant diagnostic test medical and surgical management of disorders of cardiopulmonary system

CO 2 - Ability to use theoretical and practical information in planning and tailoring effective, specific and safe physiotherapy treatment program.

CO 3 - Ability to understand of principle of physiotherapy management in disorders of Cardiopulmonary system and the application of principles of specific disorders.

CO 4 - Acquire the knowledge through lecture, case presentation, journal discussion and class discussion and setup a treatment program tailor to the patients needs

## **SPECIAL TECHNIQUES**

### **COURSE OUTCOMES**

**CO1-** NDT ,CIMT, Gait Training with Body Weight Support (BWS) or Robotic Assistance, FES techniques helps to overcome impairments and functional limitations resulting from neurological conditions such as stroke, spinal cord injury, traumatic brain injury, multiple sclerosis, Parkinson's disease, and others

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**CO2-** To acquire proficiency in applying specialized physiotherapy techniques safely, effectively, and with appropriate patient selection.

**CO3-** To develop clinical reasoning skills to select and customize specialized techniques based on patients' individual needs, goals, preferences, and clinical presentation.

## **MPT SPORTS PHYSIOTHERAPY**

### **FOUNDATIONAL CONCEPTS AND CONDITION MANAGEMENT**

## **COURSE OUTCOMES**

CO 1 - Ability to have the information on epidemiology, clinical presentation, relevant diagnostic test medical and surgical management of disorders of Sports Injuries

CO 2 - Ability to use theoretical and practical information in planning and tailoring effective, specific and safe physiotherapy treatment program.

CO 3 - Ability to understand of principle of physiotherapy management in disorders of Sports Injuries and the application of principles of specific disorders.

CO 4- Acquire the knowledge through lecture, case presentation, journal discussion and class discussion and setup a treatment program tailor to the patients needs

## **SPECIAL TECHNIQUES**

### **COURSE OUTCOMES**

**CO1-** Understanding of the principles of muscle energy techniques, agility, plyometrics, cross fit techniques.

**CO2-** To acquire proficiency in applying specialized physiotherapy techniques safely, effectively, and with appropriate patient selection.

**CO3-** To develop clinical reasoning skills to select and customize specialized techniques based on patients' individual needs, goals, preferences, and clinical presentation.