

# NIMS UNIVERSITY, JAIPUR



## SYLLABUS

## **MASTER OF PHYSIOTHERAPY**

## MASTER OF PHYSIOTHERAPY (M.P.T.)

### OBJECTIVES

At the end of the completion of Master of Physiotherapy, the postgraduate will be able to:

1. Apply advanced knowledge of clinical science in problem solving
2. Gather and interpret information within a holistic framework pertaining to health.
3. design, implement and monitor appropriate intervention
4. apply scientific principles to the concepts of health , illness and disability
5. promote health
6. apprise the social and political context of health care
7. undertake Physiotherapy education
8. promote Physiotherapy education
9. Appraise action and social skills of self and others.

### BRANCHES

1. MPT in sports physiotherapy
2. MPT in Orthopedics
3. MPT in Neurology
4. MPT in Cardiopulmonary Science
5. MPT in Pediatric Physiotherapy
6. MPT in Obstetrics & Gynecology

### REGULATIONS

#### Eligibility

Applicants must possess one of the following minimum sets of qualifications:

1. A Bachelor of physiotherapy degree certificate with not less than 4½ years duration (Including 6 months of internship) from any University within India or equivalent degree from any other recognized university
2. A Bachelor of Physiotherapy degree certificate under transitory regulations (one-year duration) for the Diploma holder in physiotherapy offered by any university within India.

### DURATION OF THE COURSE

The duration of the certified study for the Master of Physiotherapy course shall extend over a period of two academic years.

### CONDUCT OF EXAMINATION

There shall be two university examination sessions in an academic year. The University Examination comprises of written oral and clinical examination. The clinical examination will be conducted wherever stipulated.

### MEDIUM OF INSTRUCTION

The medium of instruction for all subjects shall be English.

### CURRICULUM

The Curriculum and syllabus for the course shall be update by the Academic Council from time as per the recommendations of the board of Studies.

**SCHEME OF EXAMINATION****MPT 1<sup>st</sup> YEAR**

Paper	Subject Title	Theory	Practical	Total
I	Applied Anatomy, Kinesiology & Biomechanics	100	50	200
II	Exercise Physiology & Electro Physiology	100	50	200
III	Physical & Functional Evaluation	100	50	250
IV	Evidence Based Practice	100	-	150

**MPT 2<sup>nd</sup> YEAR****MPT IN SPORTS PHYSIOTHERAPY**

Paper	Subject Title	Theory	Practical's & Orals	Total
I	1. Clinical sports physiotherapy upper quadrant 2. Clinical sports physiotherapy lower quadrant	100	100	200
II	3. Sports physiotherapy of spine and pelvis 4. Exercise in clinical practice	100	100	200

**MPT IN ORTHOPEDICS**

I	1. Musculoskeletal-I 2. Musculoskeletal-II	100	100	200
II	3. Geriatric Rehabilitation 4. Hand Rehabilitation	100	100	200

**MPT IN NEUROLOGY**

I	1. Neuroscience 2. Pediatric Bioscience	100	100	200
II	3. Physiotherapy for spinal cord injury 4. Advance topics in Neurological Physiotherapy	100	100	200

**MPT IN CARDIOPULMONARY SCIENCE**

I	1. Cardiorespiratory Science 2. Cardio Pulmonary Rehabilitation	100	100	200
II	3. Acute Cardio respiratory Practice (Include ICU Management ) 4. Fitness training & Health Promotion	100	100	200

**MPT IN PAEDIATRICS PHYSIOTHERAPY**

I	1. Clinical Pediatric Physiotherapy 2. Pediatrics Physiotherapy	100	100	200
II	3. Advanced Clinical Pediatrics (Include ICU Management ) 4. Clinical Practice in Physiotherapy	100	100	200

**MPT IN OBSTETRICS & GYNECOLOGY**

I	1. Physiotherapy Medical & Surgical Gynecology 2. Physiotherapy in Gynecology	100	100	200
II	3. Clinical Obstetrics 4. Physiotherapy in Obstetrics	100	100	200

**MASTER OF PHYSIOTHERAPY (M.P.T.) – 1<sup>ST</sup> YEAR****PAPER-I: APPLIED ANATOMY, KINESIOLOGY &  
BIOMECHANICS****UNIT I**

1. Foundation of human movement: Basic movement terminology: anatomical movement description reference system: joint movement characteristics.
2. Introduction of skeletal consideration for movement Biomechanical characteristics of bone: aspects of bone articulation.
3. Introduction to muscular consideration for movement: overview of gross structure of muscle, functional characteristics of muscles; factors that determine muscle force, aspect of strengthening the muscles, outline of injury of skeletal muscles
4. Introduction to neurological consideration for movement: overview of general organization of nervous system; details of motor neurons; sensory neurons; effects of training on neurological input and output.

**UNIT II**

1. Functional anatomy of the upper extremity
2. Functional anatomy of the lower extremity

**UNIT III**

1. Functional anatomy of the trunk
2. Mechanical analysis of human motion – force, velocity, momentum, angular kinetics, leverage, types of mechanical analysis

**UNIT IV**

1. Pathomechanics of shoulder complex
2. Pathomechanics of elbow joint
3. Pathomechanics of wrist & hand

**UNIT V**

1. Pathomechanics of spine
2. Pathomechanics of pelvis & hip

**UNIT VI**

1. Pathomechanics of knee joint
2. Pathomechanics of ankle & foot
3. Posture & gait analysis

## PAPER-II: EXERCISE PHYSIOLOGY & ELECTRO PHYSIOLOGY

### UNIT I

#### 1. Muscle physiology

Muscle and its contraction – Architecture of skeletal muscle, sliding filament theory, types of muscle fiber, mechanical efficiency of muscle contraction, force – velocity, motor unit, muscle fatigue – blood supply, prolonged exercise

#### 2. Blood & Circulation

Cardiac cycle – pressure during cardiac cycle, haemodynamics mechanical work and pressure, hydrostatic pressure, flow and resistance, venous capillary structure and transport mechanisms, filtration & osmosis visualization of skeletal muscle, regulation of circulation during exercise, cardiac output & O<sub>2</sub> updates - stroke volume, BP

### UNIT II

#### 3. Respiration

Lung compliance air way resistance, pulmonary ventilation at rest and during exercise, diffusion in lung tissues, gas pressure – ventilation & perfusion regulation of breathing exercise, high air pressure – breathe holding diving.

#### 4. Physical Performance

Aerobic processes intensity & duration of exercise, prolonged exercise, muscular stress involved in exercise.

**Anaerobic Processes:** power & capacity of high energy breakdown

Lactate Production – distribution & disappearance, effect of metabolism on tissue & blood PH, Anaerobic threshold, maximal aerobic power, maximal anaerobic power.

### UNIT III

#### 5. Physical fitness test

Test of maximal aerobic power - measurement of oxygen uptake, treadmill tests, bicycle ergo meter test, step – test, maximal oxygen up take in various sports, evaluation of anaerobic power, exercise electrocardiogram.

#### 6. Physical training

Training principle, continuous vs. intermittent exercise training methods & biological long term effect of training, disuse isometric strength training, dynamic strength training, and training of aerobic power training or an aerobic power. peripheral adaptation of aerobic training, endurance training, retraining, recovery after exercise, mechanical efficiency technique, body composition, stretching psychological aspect, muscular soreness ischemic heart disease, contra indication to physical training.

### UNIT IV

#### 7. Applied work physiology

Factor affecting sustained physical work assessment of work load in relation to work capacity, assessment of maximal aerobic power measurement of oxygen uptake typical work situation, assessment of load exerted on specific muscle classification of work, daily rates of energy expenditure, energy expenditure during specific activities like sleeping, sedentary work, house work, light industry manual labour.

#### 8. Fatigue

General physical fatigue, local muscular fatigue, cardiac rhythm in humans, shift work, effect of menstruation.

**UNIT V****9. Nutrition & physical performance**

Nutrition in general digestion, energy metabolism & factor governing the selection of fuel for muscular exercise, food for the athlete, energy balance regulation of food intake, ideal body weight, obesity, slimming diets, optional supply of nutrients.

**10. Factor affecting performance**

High altitude –limiting factor, oxygen transport, adaptation of high altitude, high gas pressure, pressure effects, nitrogen oxygen, Co<sub>2</sub>, metabolism in sport, tobacco, smoking – circulatory effects respiratory effects smoking habits among athletes, alcohol & exercise – neuro muscular function, aerobic & an aerobic power metabolic effects, caffeine, doping and the well to win.

## PAPER-III: PHYSICAL & FUNCTIONAL EVALUATION

### UNIT I

1. Clinical Decision making – planning effective treatment. Collection & documentation of data. Analysis of data & identifying the problems. Setting goals formulation and implementation of treatment plan including evaluation of the treatment outcome. Clinical decision making models. Foundation for clinical decision making.
2. Overview of psychological aspect of physical rehabilitation, disability adjustment; reaction to injury; subjectivity of disability & adjustment; stress in disease. Role theory; stages of adjustment; emotional complication & emotional functioning. Overview of psychological and social adjustment to illness.
3. Vital signs Identification of reasons for monitoring vital signs; importance of monitoring vital signs; common technique of monitoring vital signs; identification & analysis of normal value with that of abnormal values.

### UNIT II

1. Evaluation assessment & treatment planning strategies for musculoskeletal problem; principle of evaluation clinical manifestations, general and specific musculoskeletal clinical examination.
2. Treatment goals and strategies.

### UNIT III

1. Gait analysis; overview of normal gait analysis : kinetic & kinematics analysis the reliability and validity of gait analysis; description of some of most commonly used types of observational gait analysis; advantages & disadvantages of kinematics qualitative & kinematics quantitative gait analysis. Gait training. Pre- ambulation programme; assistive devices and gait patterns
2. Evaluation & management of amputee; overview of amputation surgery which includes concepts pre operative, post operative, pre fitting, post fitting PT. Prosthetic assessment & management; components of below knee, above knee prosthesis; advantage &disadvantage of alternative component & materials; feature of partial foot systems, knee, hip disarticulation prostheses; principle and features of prosthetic assessment including dynamic & static check out of prostheses.

### UNIT IV

1. Orthotic Evaluation and management, type of orthosis; footwear modification, lower limb orthosis, components.
2. Spinal orthosis: types & components, PT management including orthotic gait analysis & gait training.
3. Wheel chair: components of wheel chair, assessment of wheel chair, measurement for wheel chair, feature of sports wheel chair.

### UNIT-V

1. Bio feedback: principle of bio feed back in PT, limitation, EMG feedback for motor relearning: equipment & technical specification. Kinematics feedback, standing feed back; kinetic feed back; new concepts of biofeedback.
2. Sensory evaluation and assessment: purpose of sensory evaluation and assessment; classification & function of receptor mechanisms, involving the perception of sensation; identification of spinal pathway that mediate sensation, guideline for completing sensory evaluation; description for testing protocol for assessment of each modality.
3. Co-ordination evaluation & assessment: propose common co-ordination defects associated with lesions of cerebellum, basal ganglia & dorsal columns. Testing procedures: Non equilibrium co-ordination test. Equilibrium co-ordination test.

**UNIT-VI**

1. Motor control assessment: purpose & components identification & description of CNS control mechanism associated with motor floor control mechanism, description of common motor control defects with specific procedures & tests used to assess motor defects, the factors which influence the result of motor control assessment.
2. Functional evaluation: the concepts of health status impairment; functional limitations; disability & handicap; definition of functional activity & the purposes & components of the functional assessment; selection of activity & roles for an individual based on his or her capabilities & functional limitations, various forms of functional tests; physical function tests & multi dimensional functional assessment instrument, identification of instrument for testing function; various scoring methods used in functional assessment; reliability & validity of various functional assessment.

## PAPER-IV: EVIDENCE BASED PRACTICE

This subject introduces the concept of evidence based practice by addressing the topic related to research design & measurement, measurement error, case design studies & interpretation of clinical research.

### **BIOSTATICS AND RESEARCH METHODS**

#### **UNIT-I**

1. Introduction
  - Uses of statistical method in PT
  - Measurement, measurement scales, variables & their measurement.
  - Symbolizing data & operation
2. Statistical data
  - Tabulation
  - Calculation of central tendency & dispersion
  - Linear regression & co-relation
  - Presentation of data in diagrammatic & graphic form

#### **UNIT-II**

1. Probability & sampling
  - Probability as a mathematical system
  - Population & samples
  - Sampling distribution
  - Sampling method
  - Surveys in research
2. Vital & health statistics
  - Point in interval estimation for proportion mean
  - Hypothesis testing simple tests of significance
  - Inferential technique; normal
3. Vital & health statistics – use of vital health statistics in the practice of PT source & method of collection & recording interpretation of commonly use vital & health statistics & estimate population using arithmetic progression method

#### **UNIT-III**

1. Research process & methods
  - Overview service & specific method
  - Steps on research process
  - Selection & statement of problem
  - Formulation of hypothesis
  - Basic principles & method of research design
2. Data collection method scales & technique of psychological measure, reliability, validity, criteria for assessing measuring the tools analysis & interpretation of research data, role of computer, pilot study

**UNIT-IV**

1. Intro to history to PT research before 1900-1950, 1950-present
2. Critique of PT studies historical, instruments & tools, PT education, administration, PT practice

**UNIT-V**

1. practical application in research process, selection & statement of problem & hypothesis, review of literature, selection of research approach, selection of data gathering & developing the data gathering instrument, developing the analysis plane, selection of sample, identifying the assumption & limitation of the study, designing the data gathering plan, pilot study
2. Conducting the study, implementing the data gathering plan, implementing data analysis plan
3. Preparing the research report, mechanics & writing the report, documentation, the details of study, arrangement of report

Facts-presentation of study for discussion.

Method of teaching – lecture & discussion – seminar & practices.

**MASTER OF PHYSIOTHERAPY (M.P.T.) – 2<sup>ND</sup> YEAR****MPT IN SPORTS PHYSIOTHERAPY****PAPER-I****I. Clinical Sports Physiotherapy for Upper Quadrant****UNIT I**

1. Analysis of movement of sports injuries in upper limb
2. Concepts of motor control, clinical assessment and diagnosis of
3. Neuromusculokeletal anatomy, applied anatomy, physiology, including pain neurosensory and motor control, psychosocial, behavioral issues

**UNIT II**

1. Shoulder girdle injuries
2. Shoulder rehabilitation
3. Elbow joint injuries
4. Elbow injuries from tennis
5. Wrist and hand injuries.

**II. Clinical Sports of Physiotherapy Lower Quadrant****UNIT-III**

1. Injuries of hip
2. Knee injuries
3. Injuries of the patella

**UNIT-IV**

1. Injuries to the lower leg, ankle and foot injuries
2. Injuries to the ankle

**UNIT-V**

1. Injuries to running athletic
2. Common running related injuries to the knee
3. Common running related injuries to the knee and leg
4. Swimming injuries

# MPT IN SPORTS PHYSIOTHERAPY

## PAPER-II

### **I. Sports Physiotherapy of Spine and Pelvis**

#### **UNIT-I**

1. Applied anatomy and biomechanics of sports injury in the lumbar spine pelvis, hip and groin.
2. Biomechanics of sports injuries in such activities as distance running, sprinting, jumping, rowing, football, skiing, court sports and cycling.
3. Core stability and motor control in the sports activities involving spine.

#### **UNIT-II**

1. Specific physiotherapy for injuries including manual therapy and exercise for rehabilitation.
2. Analyse patho-mechanics of injury of spine and pelvis and develop screening and plan preventive and conditioning programs.

### **II. Exercise in Clinical Practice**

#### **UNIT-III**

1. Exercise physiology and prevention of athletic injuries
2. Warm up period
3. Protective and supportive equipment
4. Emergency care and first aid

#### **UNIT-IV**

1. Treatment of athletic injuries
2. Therapeutic modalities and procedures
3. Tapping, strapping and splinting in sports PT

#### **UNIT-V**

1. Injury rehabilitation – goals, types of exercise and special forms of exercise.

# MPT IN ORTHOPEDICS

## PAPER-I

### **I. Musculoskeletal-1**

#### **UNIT I**

1. Embryology and anatomy of the Musculoskeletal system. Evaluation of muscles and joint. Podometry, Assessment of the archs of foot. Arthrokinematics and osteokinematics of Musculoskeletal system.

#### **UNIT II**

2. Physiotherapy management of lumbosacral disorder, assessment of locomotor impairments, disabilities and disability evaluation, Physiotherapy, management of the locomotor disorder, principle of medical & surgical aspects. Orthopedic implants designs, materials, indication, post operative assessment and training.

#### **UNIT III**

3. Assessment of posture, role of Physiotherapy in scoliosis unit. Clinical symptomatology patho physiology and pathomechanics of Musculoskeletal condition.
4. Brachial plexus injuries, principle of amputation surgery, prosthetic management, prosthetic gait deviation. External aids, appliances, adaptive self help devices, prescription, biomechanical compatibility, check out and training.

### **II. Musculoskeletal-2**

#### **UNIT-IV**

1. Physiological movement–biophysics of connective tissue, response to mechanical loading. Auricular neurophysiology and principle of application. History of manual therapy – overview of various manual therapy approaches for all joint.
2. Clinical reasoning and differential clinical diagnosis based on different approaches such as Maitland, Cyrix, kalten borne, mulligan, Mackenzie's.

#### **UNIT-V**

1. Soft tissue approach–myofascial technique neutral tissue mobilization, muscle energy method.
2. Practical application of various manual approach.
3. Therapeutic exercise as an adjourn to manual therapy.

# MPT IN ORTHOPEDICS

## PAPER-II

### **I. Geriatric Rehabilitation**

#### **UNIT-I**

1. Principle of Geriatric Rehabilitation
2. Diabetes and Geriatric patient

#### **UNIT-II**

1. Arthritis in the elderly. Aging of the musculoskeletal system. Rheumatoid arthritis in the elderly.
2. Pathological fractures, fractures in elderly, osteoporosis, vertebral fractures, stress fractures.

#### **UNIT-III**

1. Prevention of cardio pulmonary reconditioning exercise & geriatric patients. Role of physiotherapist in geriatric rehabilitation.

### **II. Hand Rehabilitation**

#### **UNIT IV**

Anatomy of hand, assessment of hand, function of hand-motor and sensory organ.

#### **UNIT V**

Classification of hand injury. Principle of hand rehabilitation. Detailed aspects of various conditions. tendon injuries, crush injuries, nerve injuries-leprosy, burns, fractures, joint injury, rheumatoid hand, spastic hand, reconstruction, replantation, surgery, functional re-education, disability evaluation & compensation in hand injuries, orthoses & splinting.

# MPT IN NEUROLOGY

## PAPER-I

### **I. Neuroscience**

#### **UNIT-I**

1. Neuro anatomy
2. Neuro physiology
3. Growth and Development of nervous system

#### **UNIT-II**

1. Principle of assessment
2. Motor control of locomotion

### **II. Pediatric Bioscience**

#### **UNIT-III**

1. Embryology
2. Neonatal physiology

#### **UNIT-IV**

1. Clinical decision making for the management of pediatric condition

#### **UNIT-V**

1. Assessment of neonatal reflexes
2. Development milestone

# MPT IN NEUROLOGY

## PAPER-II

### **I. Physiotherapy for Spinal Cord Injury**

#### **UNIT-I**

1. Analysis and evaluating various levels of spinal cord injury
2. Various treatment approaches for medical and surgical management

#### **UNIT-II**

1. Transfer
2. Gait training
3. Complication of high lesion and incomplete spinal lesion
4. Wheel chair and orthotic support system
5. Skin care

#### **UNIT-III**

1. Spinal cord injury in children
2. Rehabilitation sports for paraplegics.

### **II. Advanced topics in Neurological Physiotherapy**

#### **UNIT-IV**

1. Sensory evaluation and treatment
2. Coordination evaluation and treatment
3. Motor control evaluation and treatment
4. Stroke rehabilitation
5. Traumatic head injury

#### **UNIT-V**

1. Peripheral nerve lesion
2. Neuropathy
3. Lesion of central nervous system
4. Electro physiology and electro diagnostic procedures.

## MPT IN CARDIOPULMONARY SCIENCE

### PAPER-I

#### **I. Cardiorespiratory System**

##### **UNIT-I**

1. Cardio-thoracic applied anatomy.
2. Respiratory and cardio vascular physiology.
3. Applied anatomy of the Respiratory muscles.
4. Mechanics of ventilation.

##### **UNIT-II**

1. Radiological anatomy.
2. Clinical assessment, rationale of laboratory investigation and differential diagnosis, ECG, exercise ECG testing, Echo, Halter monitoring imaging techniques, PFT and ABG analysis.

#### **II. Cardio Pulmonary Rehabilitation**

##### **UNIT-III**

1. Exercise physiology compared with abnormal exercise physiology.
2. Patient's evaluation, low level exercise testing, maximal exercise testing.
3. Programmer planning and implementation – principles.

##### **UNIT-IV**

1. Various protocols, phase wise, early, late and long term processes in MI.
2. Beneficial effects of aerobic exercise for patients with coronary artery diseases.
3. Detail study of various aspects of cardiac rehabilitation.

##### **UNIT-V**

1. Pediatric cardio vascular problems.
2. Common pulmonary diseases, including assessment and management.
3. Detail study of various conditions (obstructive, restrictive, surgical conditions) patients intervention.
4. Pediatric pulmonary problems
5. Respiratory training

# MPT IN CARDIOPULMONARY SCIENCE

## PAPER-II

### **I. Acute Cardio Respiratory Practice(include ICU management)**

#### **UNIT-I**

1. Goals and general basics of treatment.
2. Specialized expertise ICU PT
3. General clinical aspects of management of ICU patients.

#### **UNIT-II**

1. Importance of team work and infection control.
2. ICU management of primary cardiopulmonary dysfunction.
3. Principles and application of ICU equipments.
4. Oxygen administration, principles and technique.

### **II. Fitness Training & Health Promotion**

#### **UNIT-III**

1. Fitness, definition, aspects and parameters for testing.
2. Scientific basis for exercise programs.
3. Stress modifications by exercise.

#### **UNIT-IV**

1. Fitness for cardiac normal and abnormal cardiac activity and effects on cardio vascular system.
2. Exercise testing – principles of testing and prescription for individuals

#### **UNIT-V**

1. Effects of various exercise regimen on body.
2. Nutrition and fitness.

# MPT IN PAEDIATRIC PHYSIOTHERAPY

## PAPER-I

### **I. Clinical Paediatric Physiotherapy**

#### **UNIT I**

1. Review of pelvic anatomy
2. Common gynecological problems in adolescence and adults.
3. Uterus prolepses prolapse
4. Stress incontinence – urogenital dysfunction

#### **UNIT II**

1. Osteoporosis & post menopausal squeal
2. Pelvic inflammatory disease
3. Cancer of reproductive system

#### **UNIT III**

1. Pre menstrual syndrome and dysmenorrhea
2. Vascular disorders
3. Hysterectomy & puerperal sterilization

### **II. Paediatric Physiotherapy**

#### **UNIT-IV**

1. Pain relieving modalities in gynecological conditions.
2. Pelvic floor training
3. Pre & post gynecological management

#### **UNIT-V**

1. Exercise physiology for geriatric subject and prescription
2. Management of vascular problems

# MPT IN PAEDIATRIC PHYSIOTHERAPY

## PAPER-II

### **I. Advanced Clinical Pediatrics (include ICU management)**

#### **UNIT-I**

1. Principles of laboratory investigation for differential diagnosis.
2. Neonatal care; risk babies and management.

#### **UNIT-II**

1. Infections of CNS – Bacterial and viral infections
2. Hydrocephalus
3. Muscular dystrophy

### **II. Clinical Practice in Physiotherapy**

#### **UNIT-III**

1. Concepts and principles of various approaches
2. Bobath approach
3. Motor releasing program

#### **UNIT-IV**

1. Vojta approach
2. Clinical reasoning & clinical decision making
3. Rational of plan of treatment
4. Sensory integration

#### **UNIT-V**

1. Intensive care management of high risk babies.

# MPT IN OBSTETRICS & GYNECOLOGY

## PAPER-I

### **I. Physiotherapy Medical & Surgical Gynecology**

#### **UNIT-I**

1. Clinical decision making for the management of pediatric conditions.
2. Peripheral nerve injury – Brachial Plexus Injury.

#### **UNIT-II**

1. Traumatic brain injury
2. Down's syndrome
3. Cerebral Palsy
4. Spina bifida including spinal diastrophism

### **II. Physiotherapy in Gynecology**

#### **UNIT-III**

1. Growth & development of child and its disorders.
2. Genetic basis of pediatric disorders, counseling.

#### **UNIT-IV**

1. Neuro developmental assessment, developmental diagnosis and developmental screening.
2. Advances in the management of following conditions – CP, acquired brain injury, spina bifida and neuromuscular diseases.

#### **UNIT-V**

1. Assessment and management of progressive locomotor disorders– neuropathy and myopathy.

# MPT IN OBSTETRICS & GYNECOLOGY

## PAPER-II

### **I. Clinical Obstetrics**

#### **UNIT-I**

1. Developmental Anatomy–Embryology & fetal development.
2. Physiological changes during pregnancy.
3. Mechanism of labor.
4. Common complications during labor
5. Normal delivery, Episiotomy.
6. Forceps delivery.

#### **UNIT-II**

1. Special consideration – gestational diabetes, diabetes, cardiac and respiratory problems during delivery and eclampsia, diastasis recti, 3.8 caesarean section.

### **II. Physiotherapy in Obstetrics**

#### **UNIT III**

1. Breathing
2. Relaxation technique
3. Exercises – Lower extremity, abdomen & pelvic floor exercises.

#### **UNIT IV**

1. Diastases recti management
2. Management of common problems in antenatal & postnatal period.
3. Labor Management
4. Antenatal program

#### **UNIT V**

1. Postnatal exercises
2. Caesarian – Management, care of scar
3. Episiotomy Management.

## RECOMMENDED BOOKS

### APPLIED ANATOMY & KINESIOLOGY, BIOMECHANICS

1. Biomechanical Basis of Human Movement – Joe Hamill and knutsen Publishers – Williams and Wilkins.
2. Scientific Basis of Human Movement – Gowitzke, Wilkins & Wilkiam, Baltimore, 1988, 3<sup>rd</sup> Edition.
3. Clinical Biomechanics of Spine – White A.A. and Panjabi – J.B. Lippincot, Philadelphia.
4. Brunnstrom's Clinical Kinesiology – Laura K. / Myth et al., Publishers – F.A. Davis.
5. Kinesiology of the Human Body under normal and pathological conditions Arthur Steindler.

### EXERCISE PHYSIOLOGY & ELECTRO PHYSIOLOGY

1. Text Book of work Physiology – Guyton, Prim Books Bangalore – 1991, 8<sup>th</sup> Edition.
2. Samson Wright's Applied Physiology – Cyril A. Keele, Eric Neil and Normal Joels.
3. Exercise Physiology – Mc Ardle Katch, Katch.
4. Clinical Electromyography (Part I basic section only) Nerve Conduction Studies- Shin J.OH – Publisher Williams & Wilkins.
5. Clinical Neurophysiology – Nerve conduction, Electromyography and Evoked Potentials – UK Misra, Publisher B. /I. Churchill Livingstone.
6. Manual of Nerve conduction velocity techniques – DE HAS, Raven Press, New York.
7. Electro diagnosis in Diseases of Nerve & Muscle – Kimura FA Davis, Philadelphia.

### PHYSICAL & FUNCTIONAL EVALUATION

1. Physical Rehabilitation – Susan 'O' Sullaivan.
2. The Neurological Examination – Dejong's Armin F. Haerer, Publisher Lippincott Raven.
3. Bio – Feed Back – A practitioners Guide – Kerb D, Guiford Press.
4. Biofeed Back- J.Y. Basmajain.

### EVIDENCE BASED PRACTICE

1. Research for Physiotherapist – Hicks C. Churchill & Livingstone Edinburgh, 1995 Ed.
2. An Introduction to Biostatics – A Manual for students in Health Sciences P.SS Sunder Rao J. Richard.
3. Introduction to Research in Health Sciences – Polgar S., Churchill Livingstone, London, 1998.
4. Elements of Research in Physical Therapy – Currier D.P., Williams & Wilkins, Baltimore 1990 Eds.
5. Hand Book of Research method – Sproull, Scarecrow Press, 1998.
6. Physical Therapy Research – Domholdt – Domholdt, WB Saunders, Philadelphia, 1993.

### MPT IN SPORTS PHYSIOTHERAPY

1. Sports rehabilitation - MA Hutson Churchill Livingstone
2. Clinical sports medicine- Isani
3. Sports medicine – Shellock, mink & deutsh
4. Encyclopedia sport sciences & medicine – ACSM
5. Food for sports – NJ Smith
6. Strength training – DP Riley
7. Sports injury, assessment & rehabilitation – David C Reid
8. Sports & Physical therapy – Donna, Chrchill Livingstone

### MPT IN ORTHOPAEDICS

1. Orthopedic Physical Therapy – Donattelli, London, Chrchill Livingstone, 1994.
2. Gait Analysis – Perry J. Black Thorofare, Newjersy 1992.

3. Myofascial Pain & Dysfunction – Travell, Williams & Wilkins, Baltimore, 1983.
4. Physical Therapy of the Low Back – Tuomoy, Churchill, Livingstone, London, 1994.
5. Vertebral Manipulation – mait Land, G.D. Boaton, ButterWorth & Co. Boston 1997.
6. Peripheral Manipulation – Maitland G.D. Boston, Butter worth & Co. Boston 1997.
7. Hand Rehabilitation – Christine – Chuchill, Livingstone, London 1995.
8. Mechanical Diagnosis and Therapy – Robin Mckenzie.
9. Aspects of Manipulative Therapy – (Glasgow, Twomey) Churchill Livingstone.
10. Saunder’s Manual of Physical Therapy (Mosoy).
11. Common Vertebral Problems – Grieve (Churhill Livingstone).

### **MPT IN NEUROLOGY**

1. Neurological Physiotherapy – Susan Edward.
2. Stroke Patient – Principles of Rehabilitation – John Stone (Churchill Livingstone).
3. Motor Relearning Programme for Stroke – Carr & Shepered.
4. Hemiplegia – Bobath & Bobath.
5. Neuro Rehabilitation – Farber, WB Saunders, Philadelphia.
6. The Neural Basis of Motor Control – Black I, Churchill Livingstone, London,. 1987.
7. Tetraplegia & Paraplegia – IDA Brom Bley, Churchill Livingstone, Edinburgh, 1991.
8. Proprioceptive Neuro Muscular Facilitation Techniques Knot M. and Voss, Harper and Row, New York 1972.
9. De Jong’s the Neurological Examination, Armin F. Haerer Lippincott – Raven.
10. Abnormal Postural Reflex Activity caused by Brain Lesions. Bobath B. Aspen, Publications Rockville, 1987.
11. Spinal Cord injuries – Orthopedic & Neurological Aspects A.G. hardy & Rossier A.B.

### **MPT IN CARDIOPULMONARY SCIENCES**

1. Cardiopulmonary Physical Therapy – Irwin & Tecklin (Mosby).
2. Cardiopulmonary Rehabilitation – Barbara.
3. Cardiopulmonary Rehabilitation – Frown Felter & Dean.
4. Chest Physiotherapy in Intensive Care Unit – Makezie, Williams & Wilkins, Baltimore.
5. Cardiopulmonary symptoms in Physiotherapy – Cohen M, Churchill, Livingstone, London 1988.
6. A Manual of Neonatal Intensive Care – Robert NRC, Edward Arnold, London 1986.
7. Cardiopulmonary Equipments – David Eubanks & Bone.
8. Clinical Nutrition – Davidson.
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