

SYLLABUS FOR CET MASTERS IN PHYSIOTHERAPY ADMISSION**ANATOMY**

- A. Cell & Tissues
- B. Systems of the Body: Cardio-Vascular System, Respiratory System, Digestive System, Genito-Urinarysystem, Nervous System, Endocrine System
- C. Introduction To Joints
- D. Introduction To Muscles
- E. Upper Extremity: Bones, Muscles, Nerve supply, Blood supply and Joints
- F. Lower Extremity: Bones, Muscles, Nerve supply, Blood supply and Joints
- G. Trunk- Thorax, Abdomen, Pelvis
- H. Head And Neck

PHYSIOLOGY

- 1. Physiology of cell, tissues, Membranes and glands.
- 2. Muscle & Nerve
- 3. Blood
- 4. Autonomic nervous system: Sympathetic and parasympathetic ANS
- 5. Respiratory system
- 6. Cardiovascular system
- 7. Gastro intestinal system
- 8. Nervous system
- 9. Kidney and Body Fluids
- 10. Endocrinology
- 11. Reproduction
- 12. Skin: Structure, blood circulation, functions, temperature regulation-physical.
- 13. Environmental Physiology: Altitude, space and underwater physiology.
- 14. Applied physiology: Effects of heat and cold (localized and generalized). Effects of electrical stimulation on skin, muscle and nerves, effect of mechanical pressure. Effect of local and general exercise, compensation and training in nervous system. Effects of various sensory proprioceptive stimuli etc.

GENERAL PHYSIOTHERAPY

- 1) **Exercise Therapy**
 - a. Assessment techniques: Manual Muscle Testing and Goniometry
 - b. Stretching and Mobilization
 - c. Re-education and strengthening
 - d. Balance and Coordination Exercises
 - e. Gait Analysis and Training (Both Normal and Pathological Gaits)
 - f. Relaxation and soft Tissue Manipulations
 - g. Posture
 - h. PNF and Neuromuscular Coordination
 - i. Hydrotherapy

j. Joint Mobilization

2) **Electro-Therapy**

- a. General Review of Low, Med and high currents and their modifications
- b. Laser
- c. Ultrasound
- d. Cryotherapy
- e. UVR and IRR
- f. Other thermal modalities like SWD, MWD, HydroCollator, Wax therapy Fluido-therapy.

3) **Fundamental mechanics**

- a. Forces; composition and resolution of forces; force systems
- b. Force of gravity, LOG and COG
- c. Stability
- d. Reaction forces
- e. Friction
- f. Moments
- g. Newton's laws
- h. Equilibrium: static and dynamic
- i. Simple machines: Levers, pulleys and wheel and axle
- j. Kinematics: Motion: Types, location, magnitude and Direction
- k. Muscle Mechanics
- l. Bone Mechanics
- m. Joint Mechanics

ORTHOPEDICS

A. Orthopedic Assessment:

- i. Patient History, Observation, Examination-Active and Passive Movements, functional Assessment, Special Tests, Reflexes and Cutaneous Distribution, Joint Play Movements Palpation
- ii. Regional Examination with Special Emphasis on Special Tests
- iii. Gait-Definitions, Gait Cycle, Abnormal Gait patterns
- iv. Posture-Normal and Abnormal
- v. Spinal Deformities

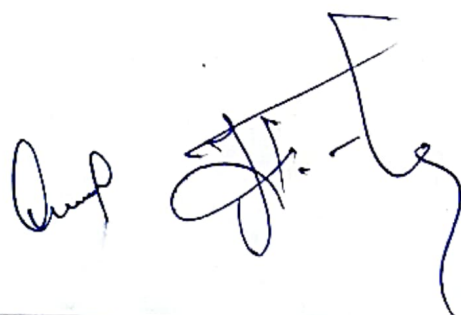
B. General Orthopedics:

- i. Infection Disorders of the Bones and Joints
- ii. Metabolic Disorders of the bones and joints
- iii. Congenital Disorders of the bones and joints
- iv. Inflammation of the bones and joints
- v. Degeneration of the bones and joints
- vi. Developmental of the bones and joints
- vii. Connective tissue Disorders
- viii. Neuromuscular disorders
- ix. Tumors of bones
- x. Myopathies
- xi. Burns

NEUROLOGY

1. Neuroanatomy (Applied)-

- i. Organization of the nervous system (CNS, PNS, ANS);



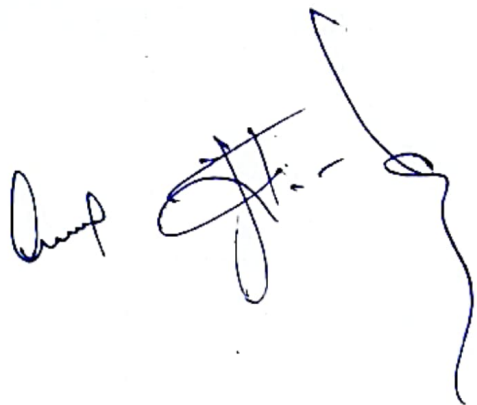
- ii. Functional anatomy of (a) Cerebral cortex (motor, sensory, association areas), (b) Basal ganglia (c) Cerebellum (d) Brainstem nuclei and pathways & (e) Spinal cord tracts;
 - iii. Blood supply of brain and spinal cord;
 - iv. Ventricular system and CSF circulation;
 - v. Cranial nerves (functional correlations);
- 2. Neurophysiology:**
- i. Neuron structure and function,
 - ii. Synaptic transmission,
 - iii. Ascending and Descending motor pathways,
 - iv. Postural control and balance mechanisms
- 3. Clinical Neurology**
- i. **Central Nervous System Disorders:** Stroke (ischemic, haemorrhagic), Traumatic brain injury (TBI), Spinal cord injury (complete & incomplete), Hydrocephalus, Cerebral palsy, Parkinson's disease, Ataxias, Dementia
 - ii. **Peripheral Nervous System Disorders:** Peripheral neuropathies, Guillain-Barré syndrome, Myopathies, Neuromuscular junction disorders (e.g., Myasthenia Gravis), Nerve injuries (classification and recovery)
- 4. Neurological Assessment In Physiotherapy**
- i. **Clinical Neurological Examination-**Higher mental functions; Cranial nerve examination; Motor system examination; Sensory system examination; Reflexes; Coordination and balance tests; Gait analysis
- 5. Neurological Physiotherapy Techniques**
- i. Bobath / Neurodevelopmental Treatment (NDT)
 - ii. Brannstrom approach
 - iii. Rood's approach
 - iv. Proprioceptive Neuromuscular Facilitation (PNF)
 - v. Motor relearning program
 - vi. Condition-Specific Physiotherapy Management

CARDIO THORACIC & PULMONARY CONDITIONS

- 1. Cardio-Pulmonary assessment
 - i) History taking ii) Observation iii) Palpation iv) Auscultation v) Percussion vi) Functional ability
- 2. Relevant diagnosis tests:
 - i) Hematology ii) ABG analysis iii) Spirometry iv) Invasive and Non-invasive techniques v) ECG vi) Echocardiography vii) Imaging viii) Lung Function Testing

CARDIOLOGY:

- i) Disorders of cardiac rate rhythm and conduction.
- ii) Cardiac Arrest
- iii) Shock
- iv) Rheumatic fever
- v) Congenital Heart Disease
- vi) Ischemic heart disease



- vii) Hypertension
- viii) Venous Thrombosis
- ix) Peripheral Vascular Disease
- x) Cardiomyopathy

PULMONOLOGY:

- i) Obstructive Pulmonary Disease
- ii) Infections of the respiratory System
- iii) Disease of the Pleura
- iv) Respiratory Failure
- v) Kyphoscoliosis Pectus carinatum, Pectus Excavatum
- vi) Pathophysiology of Paralytic-Restrictive Pulmonary Syndromes
- vii) Conventional Approaches to Managing Neuromuscular Ventilatory Failure
- viii) Mechanical Ventilation: Concepts, Physiological effects and Complications

CARDIOTHORACIC SURGERIES:

1. Closed versus open Heart Surgeries
2. Heart Transplant
3. Cardiopulmonary Bypass
4. Maintaining and Removing Artificial Airways
5. All Pulmonary Surgeries like Lobectomy, Pneumonectomy, Pleurectomy, Thoracotomy etc.

