PBM3I001

BASIC CLINICAL SCIENCE

Theory L/T (Hours per week): 3/1, Credit: 4

Module I

DIAGNOSTIC INVESTIGATIONS IN NEUROLOGY: Neurodegenerative disorders (Parkinsonism, Alzheimer's disease, SCL), Siezures, mechanism and classifications, Electroencephalography-clinical significance, Applications of computerized axial tomography, carotid angiography and transcranial doppler in neurology, Neuromuscular stimulation, Electromyography: clinical applications, clinical significance, Diseases of neuro-muscular junction, Motor neuron disorders, the electrical study of reflexes, the silent period, The F response, The H reflex, the axion reflexes. Disorders of neuromuscular transmission

Module II

CARDIOLOGY: Review of Heart structure, function and cardiac cycle, various valves and valvulopathies (MR, AR, MS, AS), Prosthetic devices, Cardiac failure and cardiogenic shock, Cardiac output measurement methods, Heart lung machine applications and clinical significance. Cardiorespiratory resuscitation, CVP and SWAN catheters

Electrical properties: Source of ECG potentials, dipole theory, normal and abnormal ECG's, diagnostic applications, interpretation of ECG, Disorders of rate and rhythm: tachycardia and tachyarrhythmias, bradycardia and bradyarrythmia, heart blocks, Cardiacpacing: diagnostic and therapeutic indications, criteria for selection, complications, types of pacing.

CARDIAC ASSIST DEVICES: Diagnostic usage of ultrasound scanners, Doppler ultrasound: measurement and clinical significance, Open heart surgery, grafts, bypass surgery. Instrumentation used for open-heart surgery, Organization of I.C.C.U Clinical aspects.

Module III

PULMONOLOGY: Obstructive respiratory disorders, Restrictive respiratory disorders, humidifiers &nebulizers, metered dose inhalers.

ANAESTHESIA: Anaesthesia machine, Mappleson circuits for breathing, Different kinds of anesthesia, uptake of anesthetic gases and vapors, Pre-anesthetic care and preparation. Post-operative care, Laws of gases, Patient monitoring during surgery. Applications of Ventilators, Infusion Pumps, Syringe Pumps,

Reference Books:

1. James G. Mcleod, Physiological Approach to Clinical Neurology, Butterworth-Heinemann Ltd, 3rd edition.
2. D.Goldstein, mehmet Oz, Cardiac Assist Devices, Blackwell Future, 2002.
3. Robert F Rushmer , Cardio vascular Dynamics.WB Saunders, 1976.
4. Ward's Anaesthesia Equipment – 4th Edition- Edited by C Ward, WB Saunders Company Limited-1992 (or the Latest Edition of the same book