EC2021 MEDICAL ELECTRONICS L T P C 3 0 0 3

UNIT I ELECTRO-PHYSIOLOGY AND BIO-POTENTIAL RECORDING 9
The origin of Bio-potentials; biopotential electrodes, biological amplifiers, ECG, EEG, EMG, PCG, EOG, lead systems and recording methods, typical waveforms and signal characteristics.

UNIT II BIO-CHEMICAL AND NON ELECTRICAL PARAMETER MEASUREMENT 9
PH, PO2, PCO2, PHCO3, Electrophoresis, colorimeter, photometer, Auto analyzer, Blood flow meter, cardiac output, respiratory measurement, Blood pressure, temperature, pulse, Blood cell counters.

UNIT III ASSIST DEVICES AND BIO-TELEMETRY 9
Cardiac pacemakers, DC Defibrillator, Telemetry principles, frequency selection, Biotelemetry, radio-pill and tele-stimulation.

UNIT IV RADIOLOGICAL EQUIPMENTS 9
Ionising radiation, Diagnostic x-ray equipments, use of Radio Isotope in diagnosis, Radiation Therapy.

UNIT V RECENT TRENDS IN MEDICAL INSTRUMENTATION 9
Thermograph, endoscopy unit, Laser in medicine, Diathermy units, Electrical safety in medical equipment.

TOTAL= 45 PERIODS

TEXTBOOKS

REFERENCES