

**B.Sc. CARDIAC TECHNOLOGY
(New Syllabus 2014-2015)**

FIRST YEAR

**PAPER III – MEDICAL ELECTRONICS, BIOPHYSICS AND COMPUTER
USAGE RELEVANT TO CARDIAC TECHNOLOGY BASIC
ELECTROCARDIOGRAPHY**

Q.P. Code : 801510

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. What are the unipolar limb leads and how are they different from augmented limb leads?
2. What is defibrillator and explain its function?
3. Explain the measures to reduce the radiation exposure.

II. Write Notes on:

(8 x 5 = 40)

1. What are the basic functional components present in the Medical instrumentation System?
2. Write notes on DC Defibrillator with synchronization mode.
3. Write about unbounded strain gauge transducers.
4. What is Blood Pressure and Mean Arterial Pressure?
5. Define Pulse Pressure and Mean Arterial Pressure.
6. Write the color coding for placement of electrodes for any one of the systems.
7. Draw an ECG showing right bundle branch block in VI and describe right bundle anatomy?
8. What are the non cardiac factors influencing ECG recording?

III. Write Notes on:

(10 x 3 = 30)

1. Write about Placements of Pericardial Electrodes.
2. Calculate the heart rate for the following data:
Paper speed = 50 mm/sec and Distance between the two peaks of QRS complex = 12.5 mm.
3. What is MRI? And write its applications.
4. Write about AED.
5. Draw the Einthoven triangle.
6. Write about oximetry.
7. What are the leads showing P-wave well? What is the normal duration of P-Wave?
8. Write about Action Potential.
9. Draw the ECG pattern in a VR. Explain reason behind that morphology.
10. Explain impedance Plethysmography.
