

**B.Sc. CARDIAC TECHNOLOGY**

**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. Describe the concept of augmented limb leads.
2. Explain various methods to reduce radiation exposure.
3. Explain different types of defibrillators.

**II. Write notes on:**

**(8 x 5 = 40)**

1. What are the basic components of medical instrument system?
2. Basic principle of pulse oximeter.
3. Cathode ray tube.
4. What is synchronisation in defibrillator?
5. Electrode position in ECG measurement.
6. Explain ionic current.
7. ECG changes for posterior wall myocardial infarction.
8. How to calculate heart rate in sinus rhythm and atrial fibrillation?

**III. Short answers on:**

**(10 x 3 = 30)**

1. Application of ultrasound imaging.
2. Mean Arterial Pressure.
3. What is computed tomography?
4. U wave.
5. What are the procedures done with fluoroscopy?
6. ECG paper.
7. Factors determining the amplitude of QRS complex.
8. Calibration check in ECG.
9. How do you calculate PR interval?
10. Draw hexaxial reference system Label the leads and indicate the degree.

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