

**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. Mention indication and contra-indication for defibrillation. Explain the working principle of DC Defibrillator.
2. Explain various techniques for monitoring Radiation Exposure.
3. Explain working principle and mechanism of Pulse Oximeter.

**II. Write Notes on:**

**(8 x 5 = 40)**

1. What are the measures to reduce Radiation Exposure?
2. What are the parameters monitored during defibrillation?
3. Mention the effects of Radiation Exposure.
4. What is Auscultatory method of blood pressure measurement?
5. Different types of Ultrasound probes and its applications.
6. Explain impedance plethysmography.
7. Explain ECG 12-Lead system.
8. Normal P wave.

**III. Write Notes on:**

**(10 x 3 = 30)**

1. What is Radiation and list the types of radiations.
2. What are the sources of Bio-potential?
3. What is Doppler Effect?
4. What is Auscultatory gap?
5. If there are 3 large squares in an R-R interval, what could be the heart rate?
6. What are the effects of body position in BP measurement?
7. What are the uses of computers in medicine?
8. What is positioning of Defibrillator paddles on defibrillation?
9. What is mean arterial pressure and pulse pressure?
10. What is pre-load and after-load?

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