

JAYA GROUP OF INSTITUTIONS
6TH SEM- B.E.
INTERNAL ASSESSMENT-II (MODEL EXAMINATION-II)

Sub. Name : **Medical Electronics**

Date : **09.03.15**

Sub. Code : **EC2021**

Branch : **ECE**

Duration : **180 minutes**

Max. Marks: **100**

Part A - (10 x 2 = 10) Answer all the Questions

PART-A

1. What is pacemaker?
2. How pulse is's generated in competitive pacemaker?
3. What are the various electrodes used for defibrillation?
4. Draw the block diagram of bio-telemetry.
5. What is Tele-stimulator?
6. How are x-ray produced?
7. What is the need of aluminium filters in x-ray machine?
8. Define ionizing radiation.
9. State the principle by which body organs could be visualized by radio isotope method?
10. What is radiation Therapy?

PART-B

11. a) (i) With neat sketch explain in detail about the ventricular synchronous pacemaker.(8)
(ii) Draw the block diagram of demand pacemaker and explain it. (8)

(OR)

- b) (i) describe in detail about the fixed rate pacemaker with neat sketch. (8)
(ii) Differentiate between the external pacemaker and internal pacemaker. (8)
12. a) (i) Draw the circuit of a defibrillation unit and explain the principle of working. (8)
(ii) With restrict to defibrillation draw the following waveforms. (8)
 - a. DC defibrillation discharge waveform.
 - b. Dual pace mono phase defibrillation discharge waveform.
 - c. Truncated defibrillation discharge waveform.

(OR)

b) What is bio-telemetry? Explain the working of single channel ECG telemetry system. (16)

13. a) (i) Write short notes on following terms

- a. Radio pill. (8)
- b. Tele-stimulation. (8)

(OR)

13. b) With suitable illustration explain the functional of x-ray machine. (16)

14. a)i) With a neat block diagram explain the implementation system for radio isotope procedures. (8)

ii) Discuss in detail the scintillation detectors for gamma radiations with necessary diagrams.(8)

(OR)

b) Explain in detail an x-ray image intensifier with appropriate diagram.(16)

15. a) Write brief notes on follows

- i) Ionizing radiation. (8)
- ii) Radiation Therapy. (8)

(OR)

15. b) Explain the need of the following in x-ray imaging system

- i) Collimator. (8)
- ii) Bucky grid. (8)