



C09-AEI-603

3716

**BOARD DIPLOMA EXAMINATION, (C-09)
MARCH/APRIL—2017
DAEI—SIXTH SEMESTER EXAMINATION
BIOMEDICAL INSTRUMENTATION**

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. State the terms 'resting potential' and 'action potential'.
2. State different frequency bands in EEG waveform.
3. Draw the block diagram setup for electromyogram recording.
4. Define Korotkoff sounds in indirect blood pressure measurement.
5. List the types of pacemakers.
6. Draw the circuit diagram of AC defibrillator.
7. List the advantages of CT imaging over X-ray machine.

- * 8. List any three properties of X-rays.
- 9. State earth free patient monitoring.
- 10. State the physiological effects of electric current.

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 11. Explain surface, cup type and disposable electrodes with diagrams.
- 12. List the types of electrodes used and their arrangement while monitoring EEG with diagram.
- 13. Explain the building blocks of electrocardiogram with diagram.
- 14. Explain the principle of operation of electromagnetic blood flowmeter with a diagram.
- 15. Explain the principle of operation of dialysis machine with diagram.
- 16. Explain the construction and operation of X-ray machine with a neat block diagram.
- 17. Explain computer applications in medicine.
- * 18. (a) Compare synchronous and asynchronous pacemakers.
(b) List the advantages and applications of MRI.
