



C09-AEI-603

3716

BOARD DIPLOMA EXAMINATION, (C-09)
OCT/NOV—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. List the different human subsystems in human body.
2. List the diagnostic medical equipment.
3. List the applications of EEG.
4. Draw the block diagram of LASER Doppler blood flow meter.
5. State the need of defibrillators.
6. Classify different types of pacemaker.
7. State the significance of grids in X-ray machine.

- * 8. List the advantages of CT imaging over X-ray imaging.
9. Mention preventive measure to reduce shock hazards.
10. Define telemedicine.

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. (a) Explain the construction of surface electrode and draw its equivalent circuit. 6
- (b) List the effects of electricity and electromagnetic radiation on human body. 4
12. Explain the electrical activity of brain and indicate the different frequency regions.
13. Explain the block diagram of EMG recording system.
14. Explain the types of direct blood pressure measurement with a necessary diagram.
15. Explain the function of dialysis machine with diagram.
16. (a) Draw the block diagram of asynchronous pacemaker and explain its operation. 5
- (b) List the advantages of MRI imaging. 5
17. Explain the construction and operation of an X-ray machine with block diagram.
- * 18. Explain earth free patient monitoring system.
