



C14-AEI-605

4709

BOARD DIPLOMA EXAMINATION, (C-14)
OCT/NOV—2017
DAEIE—SIXTH SEMESTER EXAMINATION
BIO-MEDICAL 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. Define sodium pump.
2. List any three effects of magnetism in the human body.
3. Mention the frequency and amplitude of EMG.
4. List any three applications of ECG.
5. State merits and demerits of indirect blood pressure measurement.
6. Draw the block diagram of electromagnetic blood flowmeter.
7. List any three advantages of implantable pacemakers.
8. State the need of defibrillator.
9. Define Compton effect.
10. State the significance of grids in X-ray machine.

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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 resting and action potentials with waveforms.
12. Explain the working principle of EEG machine with block diagram.
13. (a) Compare bipolar and unipolar leads. 6
(b) Draw the block diagram of EMG recording. 4
14. Explain direct blood pressure measurement with diagram.
15. Explain the working principle of Laser Doppler blood flowmeter with block diagram.
16. (a) Compare AC defibrillators and DC defibrillators. 5
(b) Define dialysis and state its importance. 5
17. (a) Draw the block diagram of ventricular synchronous demand pacemaker. 5
(b) Classify the different types of pacemakers. 5
18. Explain the production of X-rays. 10

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