



C09-AEI-603

3716

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH/APRIL—2021

DAEIE - SIXTH SEMESTER EXAMINATION

BIOMEDICAL INSTRUMENTATION

Time : 3 hours]

[Total Marks : 80

PART—A

4×5=20

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **four** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. State the need of biopotential electrodes.
2. State the importance of ECG waveform.
3. List the diagnostic medical equipment.
4. List the types of direct blood pressure measurement methods.
5. State the need of pacemakers.
6. Define prosthesis.
7. State the significance of grid in X-ray machine.
8. List the advantages of MRI scanner.
9. Define micro- and macro-shock.
10. State the importance of telemedicine.

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PART—B

15×4=60

- Instructions :** (1) Answer *any four* questions.
(2) Each question carries **fifteen** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Explain the types of electrodes used in ECG, EMG and EEG measurement.
12. Draw and explain the building blocks of an electrocardiograph (ECG).
13. Explain the block diagram of EEG machine.
14. Explain the working principle of Laser Doppler blood flowmeter with diagram.
15. (a) Compare the advantages of implantable pacemakers over external pacemakers.
(b) Explain the production of X-rays.
16. Draw and explain the block diagram of ventricular demand pacemaker.
17. Explain the construction and operation of CT scanner with block diagram.
18. Explain physiological effects of electrical current.

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