



C16-AEI-502

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BOARD DIPLOMA EXAMINATION, (C-16)

JANUARY/FEBRUARY—2022

DAEIE - FIFTH 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 bio-electric potentials.
2. Define action potentials.
3. List the diagnostic medical equipments.
4. List the applications of EMG.
5. List the types of direct blood pressure measurement.
6. Draw the diagram of electromagnetic blood flowmeter.
7. State the need of pacemaker.
8. State the importance of dialysis.
9. List any three properties of X-ray.
10. Define micro shock.

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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 criterion for valuation is the content but not the length of the answer.

11. Explain the different types of electrodes used for ECG, EEG and EMG measurements.
12. Explain the building blocks of ECG machine with diagram.
13. Explain the block diagram of EEG machine.
14. Explain the block diagram of laser Doppler blood flowmeter.
15. Explain indirect blood pressure measurement using sphygmomanometer and stethoscope.
16. Explain the block diagram of a ventricular synchronous demand pacemaker.
17. Explain the operation X-ray machine with block diagram.
18. Explain patient monitoring in ICU and draw the system of arrangement.

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