



C09-AEI-603

3716

BOARD DIPLOMA EXAMINATION, (C-09)
MARCH/APRIL—2014
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 need of biopotential electrodes.
2. Draw the electrocardiogram waveform.
3. Classify EEG frequency regions.
4. Draw the diagram of electromagnetic blood flowmeter.
5. State the need of pacemaker.
6. Explain the principle of dialysis.
7. List the applications of X-ray imaging.

8. ^{*} List the advantages of MRI.
9. Mention the preventive measures to reduce shock.
10. List the earth-free patient monitoring standards.

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. Describe the characteristics of human cell with a neat diagram.
12. Explain the basic building blocks of an electrocardiograph with a neat diagram.
13. Explain the bioelectrical potential associated with muscular activity.
14. Explain the principle of operation of LASER Doppler blood flowmeter with a block diagram.
15. Explain the circuit diagram of capacitor discharge defibrillator.
16. (a) Compare implantable and external pacemaker. 5
 (b) List the applications of MRI imaging. 5
17. Explain the working of CT scanner with a neat diagram.
18. (a) List the effects of microshock and macroshock. 5
 (b) State the computer applications in medicine. 5

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