



C20-BM-504

7615

BOARD DIPLOMA EXAMINATION, (C-20)

OCTOBER/NOVEMBER—2023

DBME – FIFTH SEMESTER EXAMINATION

BIOMEDICAL EQUIPMENT

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 specifications of ECG machine.
2. Write various lead configuration used in ECG recording.
3. Draw typical ECG waveforms and write its parameters.
4. Write the origin of EEG signal.
5. List the types of waveforms used in nerve muscle stimulator.
6. Write the need for phonocardiography.
7. List the power supplies used in external and internal pacemakers.
8. Write the comparison between internal and external defibrillators.
9. State the need for defibrillator.
10. Write the importance of anesthesia.

PART—B

8×5=40

- Instructions :** (1) Answer either (a) or (b) from each question.
(2) Each question carries **eight** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. (a) Explain the principle of direct techniques of blood pressure measurement.

(OR)

(b) Explain the working principle of Treadmill test.

12. (a) Draw and explain the 10-20 system of EEG electrode placement.

(OR)

(b) Explain the operating principle of nerve muscle stimulator.

13. (a) Explain the block diagram of asynchronous pacemaker.

(OR)

(b) Explain the mechanism and origin of heart sounds.

14. (a) Explain the circuit diagram of capacitive discharge defibrillator.

(OR)

(b) Explain the defibrillator analyzer.

15. (a) Explain the operation of Boyle's machine with diagram.

(OR)

(b) Explain the block diagram of microprocessor based ventilator.

PART—C

10×1=10

- Instructions :** (1) Answer the following question.
(2) The question carries **ten** marks.
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

16. Describe the centralized gas distribution system with layout.

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