

CBCS SCHEME

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18BM54

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021 Biomedical Equipment

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the working of ECG machine with block diagram. (10 Marks)
b. Describe unipolar and bipolar limb ECG leads. (10 Marks)

OR

- 2 a. Explain working of oscillometric blood pressure measurement method. (10 Marks)
b. Explain principle of blood pressure measurement based on Korotkoff's sounds. (10 Marks)

Module-2

- 3 a. Explain following respiratory parameters: (i) Tidal volume (ii) Total lung capacity (10 Marks)
b. Explain principle of working wedge spirometer. (10 Marks)

OR

- 4 a. Explain the working of basic water sealed spirometers. (10 Marks)
b. Wrote notes on : (i) Digital Hearing Aid (ii) Cochlear implants (10 Marks)

Module-3

- 5 a. Explain need for cardiac pacemaker and classification codes for pacemakers. (10 Marks)
b. Explain the working of ventricular synchronous demand pacemaker. (10 Marks)

OR

- 6 a. Explain working principal of surgical diathermy. (10 Marks)
b. Explain various types of electro-surgery techniques. (10 Marks)

Module-4

- 7 a. With a schematic diagram, explain the working of hemodialysis machine. (10 Marks)
b. Explain principle of dialysis in the artificial kidney. (10 Marks)

OR

- 8 a. With block diagram, explain the working of Heart-Lung machine. (10 Marks)
b. With neat diagram, draw constructional details of parallel flow dialyzers. (10 Marks)

Module-5

- 9 a. Explain basic components of working of Man-Instrument system. (10 Marks)
b. Describe the precautions to minimize electric shock hazards. (10 Marks)

OR

- 10 a. Explain safety codes for biomedical equipment. (10 Marks)
b. Explain effects of electric current on human body. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.