

Code No: RT32045A

R13

SET - 1

III B. Tech II Semester Supplementary Examinations, November - 2017

BIO-MEDICAL ENGINEERING
(Electronics and Communication Engineering)

Time: 3 hours

Maximum Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)

2. Answering the question in **Part-A** is compulsory

3. Answer any **THREE** Questions from **Part-B**

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PART -A

- 1 a) What is ECG? Draw the waveform and mention its components. [3M]
- b) Explain briefly about pH electrodes. [3M]
- c) Define the following i) Tidal volume ii) Total lung capacity [4M]
- d) What is diathermy? List the various types of diathermy equipment for physiotherapy [4M]
- e) What is MRI? List the applications of MRI [4M]
- f) Define the following i) microshock ii) macroshock [4M]

PART -B

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|---|----|---|-------|
| 2 | a) | Explain briefly about resting and action potentials with necessary sketches | [8M] |
| | b) | Explain about man-instrument system with neat block diagram | [8M] |
| 3 | a) | Explain about body surface electrodes and micro electrodes with neat diagrams | [8M] |
| | b) | Define transducer. Differentiate active and passive transducer. Explain the working principle of any passive transducer | [8M] |
| 4 | a) | Explain the measurements of heart sounds. | [6M] |
| | b) | Describe any two methods used to measure blood pressure | [10M] |
| 5 | a) | What is the function of defibrillator? Draw and explain the working principle of dc defibrillator | [7M] |
| | b) | Explain the following i) Tonometer ii) Audiometer iii) stimulators | [9M] |
| 6 | a) | Explain emission computerized Tomography. | [8M] |
| | b) | Explain in detail the components of bio-telemetry system with block diagram | [8M] |
| 7 | a) | Explain various methods of accident prevention with diagrams | [8M] |
| | b) | Explain any two types of recorders with the help of suitable diagrams | [8M] |
