

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**

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

- 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]

