

Code No: RT41105

R13**Set No. 1**

IV B.Tech I Semester Supplementary Examinations, February/March - 2018

BIO MEDICAL INSTRUMENTATION
(Electronics and Instrumentation Engineering)

Time: 3 hours

Max. Marks: 70

*Question paper consists of Part-A and Part-B**Answer ALL sub questions from Part-A**Answer any THREE questions from Part-B*

PART-A (22 Marks)

1. a) What are the static characteristics of medical instruments? [4]
- b) How the resting potential is measured? [4]
- c) List the different bio-chemical electrodes. [4]
- d) Draw the ECG waveform and label it. [3]
- e) What is the use of pacemaker? [3]
- f) What are the methods of accident prevention? [4]

PART-B (3x16 = 48 Marks)

2. a) What are the problems encountered in measuring a living system? [8]
- b) Describe the characteristics of biosignals. [8]
3. Explain the following terms:
 - a) Propagation rate
 - b) Nerve conduction rate[16]
4. a) Draw the piping diagram of cardiovascular circulation. [8]
- b) Discuss the relation between electrical and mechanical activities of the heart? [8]
5. a) Draw the block diagram of ECG recorder and explain. [8]
- b) Draw different ECG lead configurations. [8]
6. a) Distinguish between ac and dc defibrillation. [8]
- b) Explain about the internal pacemaker with neat block diagram. [8]
7. a) What are the differences between automatic nervous system and sympathetic system? [8]
- b) Write notes on lung volumes and capacities [8]