

B.TECH.

THEORY EXAMINATION (SEM-VIII) 2016-17
BIO-MEDICAL INSTRUMENTATION

Time : 3 Hours**Max. Marks : 100****Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.****SECTION – A**

1. Attempt the following: **10 x 2 = 20**

- (a) What is bioelectric potentials
- (b) Define biomaterials
- (c) What is EPSP & IPSP
- (d) Define EMG.?
- (e) Define needle electrodes
- (f) Define ions electrodes
- (g) Discuss EEG.?
- (h) Define Neuronal communication.
- (i) What is ECG lead configurations.
- (j) Define pace-maker.

SECTION – B

2. Attempt any five of the following questions: **5 x 10 = 50**

- (a) Explain, Problems encountered in measuring living systems.
- (b) Explain X-ray therapy with suitable diagram
- (c) Explain Active and passive transducers and its bio-medical applications.
- (d) Explain Bio-potential electrodes.
- (e) Explain Systemic Body & Skin Temperature Measurement.
- (f) Describe ECG recording and their types.
- (g) What is blood pressure and Explain blood pressure measurement?
- (h) Explain Heart and cardiovascular system with circulation block diagram.

SECTION – C

Attempt any two of the following questions: **2 x 15 = 30**

- 3** What is nervous system and explain Nervous System Measurements.
- 4** Explain Reparability of patient monitoring and diagnosis and Reparability of patient monitoring equipment.
- 5** Describe Laser applications in medicine and Explain Prosthetic devices and Therapies