

12/5/15

T-E-VI Sem - Biomed

## Biomedical Instrumentation - II

VI/BM/BMI-II

(16)

CBGS.

QP Code : 5091

(3 Hours)

[ Total Marks : 80

- N. B. : (1) Question No. 1 is compulsory.  
 (2) Answer any three from remaining five questions.  
 (3) Figures to the right indicate full marks.  
 (4) Draw suitable graph/diagram wherever necessary.

1. Solve any four out of the questions :-
  - (a) Draw the graph and explain action potential generation. 5
  - (b) Discuss different types of pacemakers. 5
  - (c) What are the different types of electrodes used for EMG recording. 5
  - (d) What is telemedicine? How is it a boon to rural India? 5
  - (e) Explain the direct method of BP measurement with suitable diagram. 5
2. (a) Explain 10-20 electrode system for EEG recording 10  
 (b) Draw and explain bedside monitoring system. 10
3. (a) Explain digital temperature monitoring with circuit diagram. 10  
 (b) List different patient isolation techniques. Explain any one. 10
4. (a) Explain ultrasonic doppler shift based foetal heart rate monitor. 10  
 (b) Explain different types of arrhythmias with waveforms in detail. 10
5. (a) Draw and explain single channel telemetry system. 10  
 (b) Explain unipolar and bipolar leads in wilson network. 10
6. Write short notes (any four) :-
  - (a) Phonocardiogram 5
  - (b) Heart rate variability 5
  - (c) Glucometer 5
  - (d) ERG measurement 5
  - (e) Microshock and macroshock 5