

IN-Elective-I : 1. BioMedical Instrumentation-II

P. Pages : 1

Time : Three Hours



GUG/W/16/6613

Max. Marks : 80

- Notes :
1. Same answer book must be used for each section.
 2. All questions carry equal marks as indicated.
 3. Assume suitable data wherever necessary.
 4. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) What is EEG? Describe the separation of alpha, beta, theta & delta waves of EEG. **8**
b) Explain the classification of muscles. Elaborate muscle contraction mechanism. **8**

OR

2. a) Describe the sensory measurements in detail. **8**
b) Elaborate Biofeedback Instrumentation. **8**
3. a) Describe the Pulmonary function analyzer with suitable block diagram. **8**
b) Describe with block diagram a typical telemedicine system. Also give essential parameters for telemedicine. **8**

OR

4. a) What is audiometer? Explain speech audiometer. **8**
b) Define Biotelemetry. Explain block diagram of biotelemetry receiver. **8**
5. a) What is digital Radiography? Explain the block diagram of digital video subtraction unit. **8**
b) Describe the generation & detection of ultrasound. **8**

OR

6. a) Explain the block diagram of NMR detection system. **8**
b) Describe the x-ray machine with the help of suitable block diagram. **8**
7. a) Elaborate the effects of electric current on the human body. **8**
b) Explain the safety codes for electromedical equipments. **8**

OR

8. a) Describe the path of leakage current in case of discontinuous ground. **8**
b) State the precautions to minimize electric shock hazards. **8**
9. a) Explain the principle of dialysis in the artificial kidney. **8**
b) Describe with neat diagram of an Anaesthesia machine. **8**

OR

10. a) Elaborate the classification of ventilators. **8**
b) Explain programmable volumetric infusion pump. **8**
