



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 0314

Roll No.

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B.Tech**(SEM VII) ODD SEMESTER THEORY EXAMINATION 2009-10
BIO MEDICAL INSTRUMENTATION***Time : 3 Hours]**[Total Marks : 100*

Note : (1) *Attempt any two parts from each question.*
(2) *All questions carry equal marks.*

- 1 (a) Explain briefly the specifications of $10 \times 2 = 20$ Biomedical instrumentation system. Explain the components of Man-Instrumentation system.
- (b) Explain the waveform of ECG and EEG. What electrodes are used to measure this ?
- (c) Explain surface electrodes, needle electrodes and Biomedical transducer.
- 2 (a) Draw and explain the block diagram of $10 \times 2 = 20$ Electro cardiograph the different electrodes and leads. What is Artifact ?
- (b) Explain the principle of working of vector cardiograph. Give a method for measurement of Blood pressure.
- (c) Give the concept of Pacemaker and Defibrillators. How many types of pacemaker exist ? Explain the working and installation of pacemaker.



- 3 (a) Discuss the differences between Inhalators, Ventilators and Respirators, Humidifiers, Nebulizers and Aspirators. $10 \times 2 = 20$
- (b) Explain the method for measurement of breathing mechanism.
- (c) Explain the physiology of Nervous system with the help of neat diagram.
- 4 (a) What is ophthalmology ? Explain any one ophthalmology instrument. $10 \times 2 = 20$
- (b) Explain the need of ultrasonic diagnosis. What is the principle and working of ultrasonic diagnosis ?
- (c) What is computerized tomography ? Explain the need and method of use of CT - Scan.
- 5 (a) Write short notes on monitoring emergency patients. $10 \times 2 = 20$
- (b) Explain Hearing Aids and Diathermy.
- (c) Write briefly laser application in Medicine.
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