

- Q.33 Explain the need and classification of pacemaker.  
Q.34 Explain single channel telemetry system.  
Q.35 Write a note on cardiac catheterization.

## Section-D

**Note: Long answer questions. Attempt any two question out of three Questions. (2x10=20)**

- Q.36 Explain need of Defibrillator. Explain Defibrillator with circuit diagram.
- Q.37 Explain artificial ventilation. Also discuss ventilator with diagram.
- Q.38 Explain need of Anesthesia. Explain Anesthesia work station in details.

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Roll No. ....

**4th Sem. / Medical Electronics**

**Subject : Bio-Medical Instrumentation-II / Biomed .  
Instrumentation**

Time : 3 Hrs.

M.M. : 100

## SECTION-A

**Note: Multiple type Questions. All Questions are compulsory. (10x1=10)**

- Q.1 How many Heart valves we have  
a) 3 b) 4  
c) 2 d) None of the above
- Q.2 Which is a part of Anesthesia ventilation system  
a) Breathing circuit b) Gas supply system  
c) Scavenging system d) All of the above
- Q.3 Needle electrode is used to measure  
a) ECG b) EEG  
c) EMG d) Both B & C
- Q.4 Which of the following is a stress testing device?  
a) Sphygmomanometer b) Endoscope  
c) Tread Mill d) None of the above
- Q.5 Which is called Natural Pacemaker?  
a) Aorta b) SANode  
c) AV Node d) Bundle of HIS

- Q.6 Which of the following is not an Radiology equipment  
 a) Pulse oximeter                      b) X-Ray Machine  
 c) MRI                                      d) None of the above
- Q.7 Montage is concerns for  
 a) ECG                                      b) Ventilator  
 c) Ultrasound                              d) None of the above
- Q.8 Vital Capacity of concerns for  
 a) ECG                                      b) Ventilator  
 c) Ultrasound                              d) None of the above
- Q.9 Which is not a blood component?  
 a) RBC                                      b) Platelets  
 c) Neuron                                      d) Plasma
- Q.10 Blood pressure of a healthy person in resting state should be :  
 a) 200/110 mm of Hg      b) 50/20 mm of Hg  
 c) 120/80 mm of Hg      d) None of the above

### Section-B

**Note: Objective type questions. All questions are compulsory. (10x1=10)**

- Q.11 Humidifier.
- Q.12 What is the Normal Glucose level in fasting stage of healthy person?
- Q.13 What is total lung capacity?

- Q.14 What is normal range of percentage of SPO<sub>2</sub>?
- Q.15 What is Minute Volume?
- Q.16 Expand NICU.
- Q.17 Expand CPAP.
- Q.18 Telemetry.
- Q.19 Expand IBP.
- Q.20 What is Residual Volume.

### Section-C

**Note: Short answer type Question. Attempt any twelve questions out of fifteen Questions. (12x5=60)**

- Q.21 Explain telemedicine & its application.
- Q.22 Write a note on artificial heart.
- Q.23 Write a note on surgical OT Light.
- Q.24 Explain PEEP.
- Q.25 Write a note on mechanics of breathing.
- Q.26 Write a note on critical care instrumentation.
- Q.27 Enlist different equipments used in ICU.
- Q.28 Write a short note on Monitoring alarm & electric system in ICU.
- Q.29 Write a note on operating room instrumentation.
- Q.30 Explain suction apparatus in details.
- Q.31 What is OT Table. Explain it with diagram.
- Q.32 Explain working and general fault finding in syringe pump.