

- Q.29 Explain EMG with block diagram.
 Q.30 Write a short note on noise in medical instrumentation.
 Q.31 Explain bed side monitor with diagram.
 Q.32 Explain Infusion pump with diagram.
 Q.33 Explain Hearing Aid & its types.
 Q.34 Explain Cardiac Cycle with diagram.
 Q.35 Enlist different medical Equipments in different departments in hospital.

SECTION-D

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

- Q.36 Explain EEG & its measurements with block diagram.
 Q.37 Explain lithotripter working with block diagram.
 Q.38 Explain Blood glucose level measurement with procedure in detail.

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3rd Sem. / Medical Electronics
Subject:- Bio Medical Instrumentation-I (BMI-I)

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Which of the following is not a laboratory instrument?
 a) PH Meter b) Centrifuge
 c) Blood cell counter d) None of the above
 Q.2 Blood vessels that carry blood away from heart is called
 a) Artery b) Vein
 c) Neuron d) None of the above
 Q.3 EEG measurement is done for
 a) Heart b) Liver
 c) Brain d) Muscles
 Q.4 Which of the following is a radiology instruments?
 a) PH meter b) CT Scan
 c) Blood cell counter d) None of the above
 Q.5 Which limb is used as reference point in ECG measurement

- a) Right Arm b) Left Arm
c) Right Leg d) Left Leg
- Q.6 Normal EEG Frequency range is
a) 50-500 Hz b) 0.5-50 Hz
c) 0.05-5 Hz d) 1-200 Hz
- Q.7 Defibrillator is used for?
a) Bone density measurement
b) HB measurement
c) Electric shock delivery
d) None
- Q.8 Normal sPo₂ range of healthy person should be
a) 0-50% b) 0-100%
c) 50-100% d) 95-100%
- Q.9 How many chambers does the heart have
a) 4 b) 2
c) 3 d) 6
- Q.10 Tidal volume refers to which instrument?
a) X-ray machine b) BP Monitor
c) Ventilator d) None of the above

SECTION-B

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

- Q.11 Name two types of ECG Electrodes
Q.12 Expand EEG

- Q.13 What do you mean by Notch Filter
Q.14 Expand CSF
Q.15 Systole
Q.16 Cardiac cycle
Q.17 Expand CNS
Q.18 Nebulizer
Q.19 Expand IBP
Q.20 Electrode

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Explain Central Monitoring system in hospitals.
Q.22 Write a note on role of biomedical engineers in healthcare.
Q.23 Explain different body potential & explain generation of bio-potential in body.
Q.24 Explain Biochemical simulator.
Q.25 Explain ECG leads combination of ECG measurements.
Q.26 Explain Effects of artifacts in ECG tracing. Also discuss general instructions in ECG procedure.
Q.27 Discuss about various electrodes used in ECG measurement.
Q.28 Write a note on Brain waves.