

- 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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Roll No.

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.