

- Q.28 Write a short note on blood pressure measurement by direct method.
- Q.29 Explain central monitoring system.
- Q.30 Write a note on Brain waves.
- Q.31 Explain different body potential & explain generation of bio-potential in body.
- Q.32 Explain Biomedical simulator.
- Q.33 Explain Effects of artifacts in ECG tracing. Also discuss general instructions in ECG procedure.
- Q.34 Write a short note on noise in medical instrumentation.
- Q.35 Explain bed side monitor with diagram.

SECTION-D

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

- Q.36 Explain EEG & its measurement with diagram.
- Q.37 Explain Heart lung machine with diagram.
- Q.38 Write note on following:
- Mechanics of Respiration
 - Lithotripter

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3rd Sem / Branch : Medical Electronics
Subject:- Bio-Medical Instrumentation (BMI)-I/
Bio-Med.Instr/Basic of Instr

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 What is the frequency range of ECG Signal?
- 70-120 Hz
 - 0.05-100 Hz
 - 5-120 Hz
 - 12-200 Hz
- Q.2 EEG Electrodes are placed on
- Forehead
 - Cheek
 - Ears
 - Scalp
- Q.3 Recording of Electrical activity of Muscles is called
- ERG
 - EEG
 - EMG
 - EOG
- Q.4 Which is not a blood component
- RBC
 - Platelets
 - Neuron
 - Plasma
- Q.5 Heart rate of a healthy person in resting state should be

- a) 90 Beats/Minute b) 72 Beats/Minute
c) 120 Beats/Minute d) 45 Beats/Minute
- Q.6 What is the signal amplitude of ECG Signal?
a) 2-5 mv b) 0.5-1 mv
c) 0-10 mv d) 0-20 mv
- Q.7 Letter T in EEG measurement denotes
a) Temporal Lobe b) Tympanic membrane
c) Trace d) Temper
- Q.8 The material used in limb surface electrode is
a) Gold b) Copper
c) Platinum d) German silver
- Q.9 Which instrument is used for listening heart sounds?
a) Stethoscope b) Endoscope
c) Colonscope d) Protoscope
- Q.10 Which is called Natural Pacemaker?
a) Aorta b) SANode
c) AVNode d) Bundle of HIS

SECTION-B

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

- Q.11 Expand EMG
Q.12 Electrode

- Q.13 Systole
Q.14 Expand NIBP
Q.15 What is Respiration Rate
Q.16 Expand CNS
Q.17 What is Normal Glucose level in fasting stage of a healthy person?
Q.18 What is called Natural Pacemaker of body?
Q.19 What do you mean by SpO_2 ?
Q.20 What is Tidal Volume?

SECTION-C

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

- Q.21 Discuss any two biomedical signals and their generation.
Q.22 Write a short note on perspective of Biomedical Engineering.
Q.23 Explain various ECG Electrodes
Q.24 Explain Einthoven's Triangle with diagram.
Q.25 Explain EMG with block diagram.
Q.26 Write a note on muscular system & its functions.
Q.27 Explain various electrodes used in EEG measurements.