

- Q.32 What will happen when a current pass-through human body?
- Q.33 Write a short note on blood pressure measurement.
- Q.34 Which type of electrodes are used for EEG measurement?
- Q.35 Write a short note on micro-current shock.

SECTION-D

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

- Q.36 Differentiate between EEG, ECG and EMG.
- Q.37 Draw the block diagram and explain the working operation of ECG machine.
- Q.38 What are flow transducers? What is the use of flow transducer in medical field?

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**6th Sem / Branch : Eltx. Engg.
Sub. : Medical Electronics**

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Which of the following instrument is used for recording the electrical activity of the muscles?
 a) ECG b) EMG
 c) PCG d) EEG
- Q.2 _____ converts biochemical events into measurable signals.
 a) Amplifier b) Op-Amp
 c) Rectifier d) Transducer
- Q.3 Which of the following is not an example of body surface electrodes?
 a) Needle electrode b) Suction electrode
 c) Metal plate electrode d) Floating electrode
- Q.4 Which of the following is an example of diagnostic equipment?
 a) ECG machine b) Spirometer
 c) Pulse oximeter d) All of the above
- Q.5 LVDT stands for _____

- a) Linear variable differential transformer
 b) Linear varying differential transformer
 c) Linear variable differential transistor
 d) Linear variable differential transformer
- Q.6 What is the normal pulse rate of Human being?
 a) 20-40 b) 60-100
 c) 100-150 d) Above 150
- Q.7 What is the typical range of EMG signals?
 a) 0.025 to 0.050 mv b) 0.050 to 0.1 mV
 c) 0.1 to 0.5 mv d) 0.5 to 1 mv
- Q.8 The amplitude of EMG signals depend upon which of the following factor?
 a) Respiration b) Position of electrode
 c) Blood Resistivity d) Ventricular Volume
- Q.9 What is the standard number of electrodes used in ECG diagnostic test?
 a) 6-8 b) 8-10
 c) 12-15 d) None of the above
- Q.10 What is the frequency range of ECG machine?
 a) 5 to 20 Hz b) 0.05 to 120 Hz
 c) 120-200 Hz d) 200-500 Hz

SECTION-B

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

- Q.11 What is a cell?
 Q.12 What is the full form of ECG?

- Q.13 Name any two therapeutic equipment?
 Q.14 What is the frequency range of EEG machine?
 Q.15 Define Bio-Electric signal.
 Q.16 What is the full form of MRI?
 Q.17 What is the signal amplitude of EMG?
 Q.18 What is defibrillation?
 Q.19 What is a gross shock?
 Q.20 What do you mean by transducer?

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 What is the purpose of defibrillator?
 Q.22 Distinguish between clinical laboratory equipment differ from diagnostic equipment.
 Q.23 Explain the methods to measure temperature of the body.
 Q.24 Draw and explain block diagram of respiration rate monitor.
 Q.25 Draw and explain structure of the human cell.
 Q.26 Define and classify medical equipment's?
 Q.27 What are the applications of EEG machine?
 Q.28 Write a short note on Haemodialysis.
 Q.29 What are special design from safety consideration?
 Q.30 Describe central nervous system in brief.
 Q.31 What are electric current shock hazards? Explain in brief.