

- Q.26 Discuss Telemedicine.
 Q.27 Discuss the elements of ICU.
 Q.28 Explain the necessity of ventilators.
 Q.29 Discuss CAT scan with its diagram .
 Q.30 Write a short note on De-fibrillators.
 Q.31 Discuss Glucometer.
 Q.32 Explain ECG machine with its diagram.
 Q.33 Discuss Bio-electrodes and its materials.
 Q.34 Explain action potential of a cell.
 Q.35 Discuss in-vivo and in-vitro measurement.

SECTION-D

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

- Q.36 Discuss various physiological systems of a human body.
 Q.37 Explain block diagram of Bio-Telemetry system.
 Q.38 (a) Discuss Pacemaker.
 (b) Describe Pulse oxymeter.

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Roll No.

6th Sem / IC, EI

Subject:- Bio-Medical Instrumentation

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 A Transducer converts_____
- Mechanical energy into electrical energy
 - Electrical energy to mechanical energy
 - Electrical energy to non-electrical energy
 - One form energy to another form of energy
- Q.2 Value of action potential is
- 70mv
 - 100mv
 - +20mv
 - +10mv
- Q.3 Cells are surrounded by body fluids, these body fluids are____ solutions
- Conductive
 - Non-conductive
 - Magnetic
 - None of these
- Q.4 Body surface electrodes are used to measure ____.
- ECG signal
 - EEG signal
 - EMG signal
 - All of these

- Q.5 Alpha wave pattern is associated with ____.
- Heart
 - Brain
 - Muscle
 - None of these
- Q.6 .pulse oximeter measure
- Blood sugar level
 - % of oxygen in blood
 - Lung capacity
 - None of these
- Q.7 CICU expands as
- Coronary Intensive Care Unit
 - Coronary Interface Care Unit
 - Coronary Instrument Care Unit
 - None of these
- Q.8 Respiration system is associated with
- ECG
 - EEG
 - EMG
 - None of these
- Q.9 _____. Instrument is known as treatment instrument
- Pace maker
 - Glucometer
 - Pulse oximeter
 - None of these
- Q.10 A machine that records electrical activity of heart is known as .
- EEG
 - ECG
 - EMG
 - None of these

SECTION-B

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

- Q.11 Expand CAT Scan.
- Q.12 Define accuracy.
- Q.13 Expand BMET.
- Q.14 ECG machine is used to detect electrical activity of heart. T/F
- Q.15 Signal to noise ratio should be high .T/F
- Q.16 Glucometer is used to measure blood pressure .T/F
- Q.17 Lung capacity and lung volume is measured by spirometer .T/F
- Q.18 Expand CRO.
- Q.19 Define transmitter.
- Q.20 Define sensor.

SECTION-C

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

- Q.21 Differentiate between research and clinical instruments .
- Q.22 Discuss cardiovascular system of human body.
- Q.23 Write a short note on electrode tissue interface.
- Q.24 Discuss EEG machine with its block diagram.
- Q.25 Write a short note on spirometer .