

No. of Printed Pages : 4
Roll No.

181045/171045

4th Sem / Eltx.
Subject:- Medical Electronics

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 What are the standard number of electrodes used in ECG
a) 8 b) 10
c) 12 d) None
- Q.2 To convert biochemical signal into measurable signal _____ is required
a) Amplifier b) Inverter
c) Rectifier d) Transducer
- Q.3 The ultrasound machine is an example of _____
a) Therapeutic equipment
b) Diagnostic equipment
c) Clinical laboratory equipment
d) None of these
- Q.4 Full form of EEG is
a) Electroencephalogram
b) Electricencyclogram

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- c) Electriccardiograph
d) None

- Q.5 The commonly used electrodes for EEG measurement are called
a) Skin electrodes b) Scalp electrodes
c) Needle electrodes d) None
- Q.6 The SA node stands for _____
a) Sinoatrial node b) Sino artery node
c) Sinusoidal node d) None
- Q.7 The commonly used electrodes used for EMG measurement
a) Skin electrodes b) Scalp electrodes
c) Needle electrodes d) None
- Q.8 The CT scanner is an example of
a) Therapeutic equipment
b) Diagnostic equipment
c) Clinical laboratory equipment
d) None of these
- Q.9 The full form of VCG is _____
a) Vector cardiogram b) Velocity cardiogram
c) Virtual Cardiogram d) None
- Q.10 EMG stands for _____
a) Electromyography b) Electricmyography
c) Electricalmyography d) None

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SECTION-B

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

- Q.11 ECG stands for_____
- Q.12 What is the use of strain gauge in medical electronics?
- Q.13 The breath/minute of a normal human being is _____
- Q.14 LVDT stands for_____
- Q.15 What is macro shock?
- Q.16 What is bio electrode?
- Q.17 Write 2 applications of ECG machine
- Q.18 What is the use of Bucky grid in X-Ray Machine?
- Q.19 What is digital stethoscope?
- Q.20 Full form of MRI?

SECTION-C

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

- Q.21 Which type of electrodes are used for ECG measurements
- Q.22 Explain electrode tissue interface
- Q.23 What are diagnostic equipment? Name any two
- Q.24 Draw and explain the working of PCG.
- Q.25 Discuss the role of electronics engineer in medical electronics

- Q.26 Write a short note on safety standard of medical instruments.
- Q.27 Write short note on pacemaker.
- Q.28 Draw block diagram of X-Ray machine.
- Q.29 Draw and explain structure of human cell.
- Q.30 What are biological amplifiers and name their types.
- Q.31 Write short note on vector cardiogram.
- Q.32 Explain how blood sugar is measured from the body
- Q.33 Explain working of LVDT as pressure transducer
- Q.34 Draw and explain working of digital stethoscope.
- Q.35 Explain active and passive transducer.

SECTION-D

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

- Q.36 Draw the block diagram of EMG machine and explain its working.
- Q.37 What is pressure sensor? Explain its working.
- Q.38 Write short note on any two
 - a) Leakage current
 - b) Gross current shock
 - c) Micro-current shock