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2nd Sem. / Medical Electronics

Subject : Fundamentals of Medical Electronics

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Which of the following is a preferred electrode for measuring EMG?

a) Surface electrodes

b) needle electrodes

c) pregelled electrodes

d) scalp electrodes

Q.2 Which type of transducer requires energy to be put into it in order to translate changes due to the measurand?

a) active transducers

b) passive transducers

c) powered transducers

d) local transducers

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain the types of hospital equipment in brief.

Q.24 Explain ECG with Block Diagram.

Q.25 Explain Needle Electrodes and Surface Electrodes.

Q.3 CRO stands for_____

a) Common Ray Oscilloscope

b) Cathode Ray Oscilloscope

c) Cathode Ray Oscillator

d) Common Ray Oscillator

Q.4 How much blood is present in an average adult?

a) 10-12 L b) 2-3 L

c) 5-6 L d) 20-25 L

Q.5 Monopolar needle electrode have a coating of which material over the stainless steel wires which are bare only at the tips?

a) Carbon b) calcium

c) Sodium d) Teflon

Q.6 In medical recorders, the signal of interest is of the order of _____

a) nanovolts b) microvolts

c) megavolts d) volts

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 What is noise?

Q.8 The transducer which is used to sense the heat is called_____ Transducer.

Q.9 EMG stands for_____

Q.10 What is full form of DSP?

Q.11 What is Transducer?

Q.12 BME stands for_____

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Explain EEG

Q.14 What is noise and its parameters?

Q.15 What is microelectrodes?

Q.16 What is Biomedical organization?

Q.17 Write direct writing recorders?

Q.18 Explain Electromyograph?

Q.19 What is principle of Active Transducer?

Q.20 What is principle of LVDT?

Q.21 What is optical fibre sensor?

Q.22 Explain Departments of hospital.