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223251

Roll No.

5th Sem. / Medical Electronics
Subject : Troubleshooting & Maintenance of
Bio Medical Equipment

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 Electrodes used for recording EMG

- a) Limb Electrodes
- b) Pre-gelled disposable electrodes
- c) Floating electrodes
- d) Needle Electrodes

Q.2 EEG Signal frequency range

- a) 0.1 to 50hz
- b) 0.5 to 50hz
- c) 0.2 to 70hz
- d) None of the above

Q.3 Chest Electrodes are placed in _____ positions.

- a) 2
- b) 5
- c) 6
- d) 10

Q.4 The cause of first heart sound is closure of

- a) AV valves
- b) Semilunar valves
- c) Mitral valve
- d) Pulmonary valve

Q.5 Breathing rate of a healthy person in resting state should be-

- a) 10-80 Breaths/min
- b) 0-40 Breaths/min
- c) 12-20 Breaths/min
- d) None of the above

Q.6 Doppler effect used to detect

- a) Sugar flow
- b) Lungs beat
- c) Blood flow
- d) None of the above

Section-B

Note: Objective/Completion type questions. All questions are compulsory. $(6 \times 1 = 6)$

Q.7 Expand SIMV.

Q.8 Preventive Maintenance.

Q.9 Fuse.

Q.10 Expand SMPS.

Q.11 Leakage current.

Q.12 Trouble shooting

Section-C

Note: Short answer type Question. Attempt any eight questions out of Ten Questions. $(8 \times 4 = 32)$

Q.13 Discuss various types of fuses used in medical equipment.

Q.14 Explain ECG Machine & its electrodes.

Q.15 Explain USP system with classification.

Q.16 Explain constant voltage Transformer.

Q.17 Write a note on Preventive Maintenance.

Q.18 Explain Micro-Shock & Macro-shocks hazards of medical instruments.

Q.19 Explain construction & working of Multi parameter monitor.

Q.20 Write a note on different ventilation Modes.

Q.21 Explain OT Light with diagram.

Q.22 Explain Annual Maintenance contract.

Section-D

Note: Long answer questions. Attempt any two question out of three Questions. $(2 \times 8 = 16)$

Q.23 Explain various physiological effects due to 50Hz current passage.

Q.24 Explain Principle, working & maintenance of syringe pump with diagram.

Q.25 Explain Principle, working & maintenance of operation theatre Table with diagram.