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Roll No.

223242

4th Sem.
Branch : Medical Electronics
Sub. Medical Imaging Techniques

Time : 3 Hrs.

M.M. : 60

SECTION-A

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

Q.1 _____ are harmful for humans.

- a) Infrared Rays
- b) X rays
- c) Sound Waves
- d) Magnetic Waves

Q.2 Doppler effect is used in

- a) X ray
- b) MRI
- c) USG
- d) None of the above

Q.3 X ray tube is a part of

- a) MRI
- b) USG
- c) CT
- d) Monitors

Q.4 NMR coil is a system component of

- a) ECG
- b) Defibrillator
- c) MRI
- d) Blood Cell Counter

- Q.5 Computed Tomography is a _____ equipment.
a) Diagnostic b) Therapeutic
c) ICU d) Surgical

- Q.6 _____ is not a diagnostic equipment.
a) X ray b) MRI
c) USG d) Blood Cell counters

SECTION-B

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

- Q.7 Write one example of electromagnetic wave.
Q.8 Write one use of X ray machine.
Q.9 Write name of one system component of USG.
Q.10 Write the definition of transducer.
Q.11 Write full form of MIT.
Q.12 Rotating anode type X ray tube is used in _____.

SECTION-C

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

- Q.13 Explain the pulse echo technique of USG in short note.
Q.14 Write a short note on angiography procedure.

- Q.15 Explain Larmer frequency in a short note.
Q.16 Write a short note on the photoelectric effect caused by X rays.
Q.17 Write a short note on fluoroscopy.
Q.18 Explain patient dose in the CT scanners in a short note.
Q.19 Write a short note on B scan of USG.
Q.20 Write a short note on the mammography.
Q.21 Write a short note on gamma camera.
Q.22 Explain line focus principle in a short note.

SECTION-D

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

- Q.23 Draw well labelled block diagram of CT scan and explain its various parts.
Q.24 i) Explain the working principle of MRI.
ii) Write a short note the magnets used in the MRI machine.
Q.25 Draw well labelled block diagram of X ray machine and explain its various parts.