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Roll No.

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. (6x1=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. (8x4=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 Larmor 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. (2x8=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.