Q.33 Draw the block diagram of X ray Machine.

Q.34 Draw a neat and labeled block diagram of MRI.

Q.35 Write five properties of X rays.

SECTION-D

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

Q.36 Explain the working principle of MRI with a neat and labeled block diagram.

Q.37 Explain the various parts of CT with a neat labeled block diagram.

Q.38 Explain any two types of interactions between X-rays and matter.

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5th Sem / Branch : Medical Electronics
Subject:- Medical Imaging Techniques (MIT)

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 X-ray is a _____ equipment.

a) diagnostic b) therapeutic
c) surgical

Q.2 X-rays were discovered by

a) Becqurel b) Röntgen
c) Marie Curie d) Von Laue

Q.3 Stationary anode type x ray tube is used in

a) MRI b) Ventilator
c) X ray d) USG

Q.4 _____ is a system component of MRI scan.

a) X ray generators b) Collimator
c) NMR Coil d) X ray tube

Q.5 The first gamma camera is also known by which of the following name?

a) Hal camera b) Anger camera
c) Muller camera d) West camera

Q.6 X-rays possess electromagnetic character.

a) True b) False

Q.7 Doppler effect is use in

a) MRI b) Ventilator

c) X ray d) USG

Q.8 "CT" stands for _____?

a) ultrasonography

b) Magnetic resonance Imaging

c) Computed tomography

d) none of the above

Q.9 FID stands for Free Induction Decay

a) Yes b) No

Q.10 This is an example of magnetic material

a) Iron b) Wood

c) Lead d) Plastic

SECTION-B

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

Q.11 Write two components of ultrasound machine.

Q.12 Write one use of X-ray machine.

Q.13 Expand 'EM' in EM waves.

Q.14 Write one use of auto transformer in x-ray machine.

Q.15 Write definition of transducer.

Q.16 Write one use of CT.

Q.17 Expand NMR.

Q.18 Write one use of gamma camera.

Q.19 Write full form of MRI.

Q.20 Write one safety requirement for X-ray.

SECTION-C

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

Q.21 Write short note on B mode of USG.

Q.22 write short note on the 2nd generation CT.

Q.23 Draw the labelled block diagram of mammography.

Q.24 A short note on the patient dose in CT.

Q.25 A short note on linear transducer on USG.

Q.26 Write five differences between CT and MRI.

Q.27 Explain any one transducer used in ultrasound imaging.

Q.28 Draw a labeled diagram of rotating anode X ray tube.

Q.29 Write a short note on Larmor frequency.

Q.30 Explain the need of beam restrictors in X ray.

Q.31 Write a short note on X ray films.

Q.32 Write a short note on image intensifier.