

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0423]

APRIL 2023

Sub. Code: 1836

**B.Sc. RADIOLOGY IMAGING TECHNOLOGY
THIRD YEAR – (Regulation 2014-2015 onwards)
PAPER I – EQUIPMENTS OF MODERN IMAGING MODALITIES
*Q.P. Code: 801836***

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Discuss in detail the principle and working of a gamma camera.
2. Explain CT artifacts in detail.
3. Discuss in detail various generations of the CT scanners. Mention the advantages of multi slice CT scanner over conventional CT.

II. Write notes on:

(8 x 5 = 40)

1. Larmor Frequency in MRI.
2. Gradient echo sequence.
3. Pulse sequences in MRI.
4. Super conductive magnet.
5. Principle of PET CT.
6. Explain contrast materials in MRI.
7. Ultrasound Transducer.
8. Discuss about two isotopes used as a therapeutic agent in Nuclear Medicine.

III. Short answers on:

(10 x 3 = 30)

1. Diffusion Weighted Imaging.
2. Piezo electric effect.
3. Define pitch in CT.
4. Acoustic Coupling agents.
5. MR angiography techniques.
6. CR image plate phosphor.
7. Filtration in X-ray imaging.
8. Mammographic X-ray film.
9. Advantages of MRI over CT images.
10. What is Doppler effect?
