

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

[AHS 0424]

APRIL 2024

Sub. Code: 1432

**DIPLOMA IN RADIOGRAPHY AND IMAGING TECHNOLOGY
SECOND YEAR – (Regulation 2018-2019 onwards)
PAPER II – EQUIPMENTS, BASIC TECHNIQUES OF MODERN IMAGING
MODALITIES
Q.P. Code: 841432**

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on: (3 x 10 = 30)

1. Discuss in detail about CT equipment.
2. Describe in detail about construction and working of mammographic X-ray equipment.
3. Explain in brief about the various types of magnets used in MRI.

II. Write notes on: (10 x 5 = 50)

1. Explain the construction and working of CR reader.
2. Explain the detectors used in CT.
3. Pulse sequences used in MRI.
4. Explain the physical properties of Ultrasound.
5. Photomultiplier tube.
6. Stroke protocol in CT.
7. Ultrasound display modes.
8. Discuss in detail about proton density imaging.
9. Write about photostimulable phosphate plate.
10. Write briefly about principle of MRI scan.

III. Short answers on: (10 x 2 = 20)

1. What is doppler effect and doppler shift?
2. Define Larmor frequency.
3. Write the use of RF coils in MRI.
4. Define pitch in CT.
5. What are the advantages of MRI over CT images?
6. Write about grids used in mammography.
7. What is TR, TE and TI in MRI?
8. In which modality bowtie filter is used and why?
9. Write the applications of phased array transducer.
10. Write the contraindications of MRI scan.
