

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

**[LR 1220]**

**DECEMBER 2020  
(AUGUST 2020 EXAM SESSION)**

**Sub. Code: 1412**

**DIPLOMA IN RADIOLOGY IMAGING TECHNOLOGY  
SECOND YEAR – (Regulation from 2010-2011)  
PAPER II – EQUIPMENTS, BASIC TECHNIQUES OF MODERN IMAGING MODALITIES  
*Q.P. Code: 841412***

**Time: Three Hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Describe the basic principle of MRI. Discuss briefly about T1 and T2. Relaxation and its utility in MRI.
2. Explain the CR system. Advantages of CR and DR.
3. Explain the basic principle of Mammography. Describe in detail about parts of Mammography machine.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Discuss briefly about Helical / Spiral CT.
2. Discuss the principle of USG Image formation.
3. Describe the physical principal of Multidetector CT.
4. What is Digital Mammography?
5. What are the Factors controlling CT Image Quality?
6. What is Radiation dose in CT?
7. Explain about FLIP Angle.
8. Mammographic Cassette.
9. Discuss briefly about Superconducting MRI magnet.
10. Construction of Transducer.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. What is Tele-radiology?
2. What is Phosphor Reader?
3. RF Coils.
4. Name the types of USG Image Displays.
5. What is Fringe field?
6. Name four Specialized MR Sequences.
7. Name four Nuclei in Human body suitable for MR Imaging.
8. What is GRE?
9. TR and TE in MRI.
10. Name four Artifacts in CT.

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