

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

[AHS 1022]

OCTOBER 2022

Sub. Code: 2501

**M.Sc. RADIOGRAPHY AND IMAGING TECHNOLOGY
FIRST YEAR**

**(Candidates admitted from 2019-2020 onwards – Paper - I)
(Candidates admitted from 2020-2021 Batch onwards – Paper - II)
PAPER I & II - RADIOLOGICAL PHYSICS**

Q.P. Code : 282501

Time: Three hours

Maximum : 100 Marks

Answer ALL Questions

I. Elaborate on:

(2 x 20 = 40)

1. Principles and Clinical application of dual energy CT. Discuss various dose reduction techniques in CT.
2. Describe the construction of an X – ray tube with the help of a labelled diagram. Discuss the mechanism of production of X – rays.

II. Write notes on:

(10 x 6 = 60)

1. Define radiographic contrast. Describe factors that affect radiographic contrast.
2. CT Enteric contrast agents.
3. Photoelectric effect and its role in production of radiographic images.
4. Clinical applications and techniques of fat suppression MRI.
5. Filters.
6. X – ray Film.
7. Rare earth screens.
8. CT perfusion in acute stroke.
9. Tomosynthesis in mammography.
10. Ultrasound artifacts.
