

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

[AHS 0222]

**FEBRUARY 2022  
(OCTOBER 2021 EXAM SESSION)**

**Sub. Code: 4016**

**M.Sc. MEDICAL PHYSICS  
FIRST YEAR**

**(Candidates admitted from 2010-2011 onwards – Paper VI)**

**(Candidates admitted from 2020-2021 onwards – Paper VII)**

**PAPER VI & VII – PHYSICS OF MEDICAL IMAGING**

***Q.P. Code : 284016***

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate notes on:**

**(2 x 20 = 40)**

1. a) Give the details about the instruments used in Mammography.  
b) Explain in detail about indirect and direct digital radiography.
2. Write the different quality assurance tests which are used to evaluate the Conventional x-ray equipments.

**II. Write Short Notes on:**

**(10x6 = 60)**

1. Explain in detail about Photoelectric effect.
2. Image intensifier.
3. Bremsstrahlung X-Rays.
4. Grid ratio.
5. Automatic exposure control.
6. Continuous and Characteristic spectra.
7. Color Doppler.
8. Interactions of x-rays with matter.
9. Role of filters in imaging.
10. MRI artifacts.

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