

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

[AHS 0423]

APRIL 2023

Sub. Code: 1422

DIPLOMA IN RADIOGRAPHY AND IMAGING TECHNOLOGY

FIRST YEAR (Regulation 2018-2019 onwards)

**PAPER II – GENERAL PHYSICS, RADIATION PHYSICS AND
PHYSICS OF DIAGNOSTIC RADIOLOGY**

Q.P. Code: 841422

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Write in detail about Electromagnetic Induction principle and its application in X-rays Production.
2. Describe Radioactivity and discuss about types of Radioactive Decay with example.
3. Explain the principle of Radiation Detection. Discuss the advantages and disadvantages of TLD over pocket dosimeter.

II. Write notes on:

(10 x 5 = 50)

1. Properties of Electromagnetic waves.
2. Transformer and its types.
3. Characteristic Radiation.
4. Quality and Quantity of X-rays.
5. Photoelectric effect.
6. Line focus principle.
7. Explain mA circuit.
8. Explain the Phenomenon of Magnetism.
9. Attenuation and its types.
10. X-ray filters.

III. Short answers on:

(10 x 2 = 20)

1. Define Atomic number.
2. Einstein's formula.
3. What is Conduction?
4. Define Capacitance.
5. What is Nucleon?
6. Define Work.
7. What is Thermionic Emission?
8. Inherent Filtration.
9. Define Linear Attenuation Coefficient.
10. Half Value layer.
