

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

**[AHS 0423]**

**APRIL 2023**

**Sub. Code: 1423**

**DIPLOMA IN RADIOGRAPHY AND IMAGING TECHNOLOGY  
FIRST YEAR (Regulation 2018-2019 onwards)  
PAPER III – X-RAY MACHINES ACCESSORIES AND MAINTENANCE**

*Q. P. Code: 841423*

**Time: Three hours**

**Maximum : 100 Marks**

**Answer ALL Questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Collimators – Their uses and types.
2. With a neat diagram, Describe Rectification, Half Wave and Full Wave Rectification Circuit.
3. Explain in detail about Image Intensifying Tube (I. I. Tube) construction and working principle.

**II. Write notes on:**

**(10 x 5 = 50)**

1. Stationary Anode X-ray Tube.
2. Focusing cup.
3. Space charge effect.
4. Target in X-ray tube.
5. Potter-Bucky System.
6. Anode angle.
7. mA circuit.
8. Kilovoltage circuit.
9. Line focus principle.
10. Mass Miniature Radiography.

**III. Short answers on:**

**(10 x 2 = 20)**

1. Grid.
2. Inverse Square Law.
3. Phosphorescence.
4. Heel effect.
5. Automatic exposure control.
6. Triode.
7. Filament.
8. Scatter Radiation.
9. Voltmeter.
10. Thermionic emission.

\*\*\*\*\*