

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

[AHS 1023]

**OCTOBER 2023**

**Sub. Code: 4015**

**M.Sc. MEDICAL PHYSICS  
FIRST YEAR (From 2020–2021 onwards)  
PAPER VI – RADIATION DETECTORS AND INSTRUMENTATION**

*Q.P. Code: 284015*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Explain in detail about the construction and working of Scintillation type Radiation detector. Write about the properties of ideal scintillating material.
2. Discuss about OP-amp and its various operations.

**II. Write notes on:**

**(10 x 6 = 60)**

1. JFET.
2. Radio isotope calibrator.
3. Whole body counter.
4. Thimble chamber.
5. Radiographic films in Radiotherapy.
6. GM counter.
7. Suitable survey meters for continuous and pulsed radiation.
8. Calorimeters.
9. Film densitometers.
10. TLD film readers.

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