

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

**[MD 0723]**

**JULY 2023  
(MAY 2023 EXAM SESSION)**

**Sub. Code: 2035**

**M.D. DEGREE EXAMINATION  
BRANCH IX – RADIO THERAPY  
BRANCH XXVI - RADIATION ONCOLOGY**

**PAPER I – MEDICAL RADIATION PHYSICS AS APPLIED TO  
RADIOTHERAPY AND RADIATION BIOLOGY**

*Q.P. Code: 202035*

**Time: Three Hours**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 15 = 30)**

1. Describe in detail about Stereo Tactic Radiotherapy Systems and their clinical applications.
2. Discuss in detail about various methods of Radiation dose Measurement and their clinical utilities.

**II. Write notes on:**

**(10 x 7 = 70)**

1. Oxygen Enhancement Ratio and its significance.
2. Integral dose.
3. Scattering foil.
4. Tumor microenvironment.
5. Ophthalmic Irradiators.
6. Alpha Emitters and Beta Emitters.
7. Pair production.
8. DNA Repair.
9. Radio protectors.
10. Altered fractionation schedules.

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