

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

[MD 0522]

MAY 2022

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 total body irritation in detail.
2. The IMRT workflow in a stage IIB cervical cancer patient and describe the factors considered while evaluating and approving an IMRT plan for such a patient.

II. Write notes on:

(10 x 7 = 70)

1. Proton Therapy.
2. Gamma Knife.
3. SBRT.
4. Build up and Clinical Implications.
5. High LET particles in Radiotherapy.
6. DNA repair pathways.
7. Mechanism of Cell killing.
8. Cell Survival Curve.
9. Inverse Dose Rate Effect.
10. Hyperthermia.
