

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

**[MD 1022]**

**OCTOBER 2022**

**Sub. Code: 2035**

**M.D. DEGREE EXAMINATION  
BRANCH IX – RADIO THERAPY**

**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. Draw a block diagram of Linear Accelerator and label its parts. Discuss the recent advances made with respect to Linear Accelerator.
2. Field matching techniques available and explain it in detail with respect to Medulloblastoma.

**II. Write notes on:**

**(10 x 7 = 70)**

1. ICRU 50, 62.
2. Short notes on Simulator.
3. Tongue and groove effect.
4. LET and RBE.
5. Radiation induced chromosomal aberrations.
6. Rotational Therapy.
7. DVH.
8. QUANTEC and HyTEC.
9. Hypo fractionation.
10. Beam Modifying devices.

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