

**B.Sc. RADIOTHERAPY TECHNOLOGY  
FIRST YEAR  
PAPER III – RADIOTHERAPY PHYSICS AND PRINCIPLES OF  
RADIOTHERAPY**

*Q.P. Code: 801908*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:** **(3 x 10 = 30)**

1. Physical, Biological and Effective half-lives.
2. Physical components of a linear accelerator.
3. SSD, SAD and Rotation techniques.

**II. Write notes on:** **(8 x 5 = 40)**

1. Radioactive equilibrium.
2. Attenuation, scattering, absorption.
3. Bolus.
4. Compensators.
5. PDD, TAR and TMR.
6. Remote afterloading brachytherapy units.
7. Simulator.
8. Shielding blocks.

**III. Short answers on:** **(10 x 3 = 30)**

1. Delta rays.
2. Bragg curve.
3. Secondary electrons.
4. Wedges.
5. Port film.
6. Phantom material.
7. SRS.
8. IMRT.
9. IGRT.
10. Tomotherapy.

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