

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

**[AHS 0122]**

**JANUARY 2022  
(OCTOBER 2021 EXAM SESSION)**

**Sub. Code: 2411**

**M.Sc. RADIOTHERAPY TECHNOLOGY  
SECOND YEAR (From 2019-2020 onwards)  
PAPER I – CLINICAL BIOLOGY, RADIATION TOXICITIES, STEREOTACTIC  
RADIOTHERAPY, RADIO SURGERY, SBRT RADIOTHERAPY  
*Q.P. Code : 282411***

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Define SRT, SRS, SBRT.
2. Discuss particulate radiation – types and any one in detail.

**II. Write notes on:**

**(10 x 6 = 60)**

1. Directly ionizing radiation.
2. Explain DNA strand breaks with diagrams where necessary.
3. Explain with diagram cell survival curve for mammalian cells.
4. Radio sensitivity.
5. Classify radiation damage and explain lethal damage.
6. Discuss OER.
7. Stochastic effect.
8. Discuss late radiation toxicities in skin.
9. Explain time dose fractionation model or LQ model.
10. Hyperfractionation.

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