

**PG Degree Supplementary Examinations in Radiation Oncology
(MD) November 2022**

Paper I – Radiation Physics, Radiobiology & Other Basic Sciences

Time: 3 hrs

Max marks:100

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Essay:

(20)

1. Discuss about the four 'R's of Radiobiology. Write briefly on Radiosensitivity and Re-activation of immune response by Radiotherapy.

Short essays:

(8x10=80)

2. Linear quadratic model
3. Measurement of absorbed dose
4. Motion management strategies in radiotherapy
5. ICRU 38 and 58
6. Acute effects of total body irradiation
7. LDR versus HDR Brachytherapy
8. Beam modifying devices
9. Linear Energy Transfer (LET) and Relative Biologic Effectiveness (RBE)
