

QP Code: 101117

Reg. No.:.....

**PG Degree Supplementary Examinations in Radiotherapy (MD) -
November 2017**

Paper I – Radiation Physics, Radiobiology & Other Basic Sciences

Time: 3 hrs

Max marks:100

- *Answer all questions*
- *Draw diagrams wherever necessary*

Essays:

(20)

1. Define brachytherapy. Describe the radiobiological rationale for brachytherapy.
What are the advantages of HDR brachytherapy over LDR brachytherapy.

Short essays:

(8x10=80)

2. Draw a block diagram of linear accelerator and label its parts.
3. Maximum permissible dose.
4. Unsealed radioisotopes.
5. Modes of cell death after irradiation.
6. Stochastic and non-stochastic effects of radiation.
7. Discuss the benefit of accelerated fractionation with respect to radiobiology
8. Hypoxic radio sensitizers.
9. Physical properties and clinical utilities of iridium-192.
