

QP Code: 101117

Reg. No.:.....

**PG Degree Supplementary Examinations in Radiotherapy (MD)  
November 2021**

**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. Describe in detail with neat labelled diagram, the process of establishment of a radiotherapy department. Explain in detail the radiation safety and radiation protection aspect of establishing the tele therapy wing for high energy linear accelerator and with HDR cobalt brachytherapy & PET scanner adjacent to it.

**Short essays:**

**(8x10=80)**

2. Preoperative radiation therapy
3. Genetic predisposition and chromosomal abnormalities in common cancer
4. Serum tumour markers
5. Normal tissue tolerance – late effects of radiation treatment
6. Describe with a neat labelled diagram production of X ray in a linear accelerator and a diagnostic X ray tube.
7. Cell survival curve
8. Beam modifying devices
9. FFF – Flattening Filter Free

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