

**QP Code: 101117**

**Reg. No.:.....**

**PG Degree Supplementary Examinations in Radiotherapy (MD)  
October 2019**

**Paper I – Radiation Physics, Radiobiology & Other Basic Sciences**

**Time: 3 hrs**

**Max marks:100**

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

**Essay:**

**(20)**

1. Discuss the physical properties of Iridium-192, Iodine- 125 and Strontium - 90. Enumerate the clinical applications of each. How do you evaluate a plan of LDR brachytherapy of prostate.

**Short essays:**

**(8x10=80)**

2. ICRU 50
3. Photodynamic therapy - principles, clinical applications and technique
4. High LET radiation - biological rationale and clinical indications
5. Radiation dose-volume effects in the lung
6. Hypoxic cell cytotoxins
7. Quality assurance tests of an IMRT plan
8. Radiation carcinogenesis
9. Linear Quadratic Model. (L-Q model).

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