

**PG Degree Supplementary Examinations in Radiation Oncology  
(MD) July 2025**

**Paper IV - Recent Development in Clinical Oncology**

**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. What is particle beam therapy and the radiobiological basis for it. Discuss its advantages and disadvantages over photon therapy. Enumerate clinical situations where proton therapy is beneficial.

**Short essays:**

**(8x10=80)**

2. Discuss the clinical applications of IGRT in the current radiotherapeutic practice.
3. Discuss the current 8<sup>th</sup> AJCC staging system for oropharyngeal cancer. What are the reasons and evidence for modification of staging for oropharyngeal cancers.
4. Role of endocrine and HER-2 directed therapy in breast cancer.
5. Discuss the recent advances in organ preservations in cancer treatment.
6. What is FLASH and IGRT Radiotherapy and mention its indications.
7. What are the benign diseases treated with Radiotherapy. Discuss about the role of Radiotherapy in Meningioma.
8. What is tumor lysis syndrome. Discuss the management.
9. Outline the management of Febrile neutropenia

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