

QP Code: 104117

Reg. No.:.....

**PG Degree Supplementary Examinations in Radiation Oncology
(MD) April 2026**

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. A 58-year-old male presents with dysphagia and weight loss. Endoscopy reveals a distal esophageal mass. Biopsy confirms moderately differentiated adenocarcinoma. Imaging shows cT3N1M0 disease. He undergoes neoadjuvant chemoradiotherapy followed by transthoracic esophagectomy. Final histopathology reveals residual viable tumor (ypT2N1).
 - a) Discuss the evolving role of neoadjuvant chemoimmunotherapy in resectable esophageal cancer.
 - b) In this patient with residual disease after surgery, discuss the role of adjuvant immunotherapy, including patient selection and duration of treatment.
 - c) Discuss the biological rationale and clinical considerations for integrating immunotherapy with chemoradiotherapy in esophageal cancer.
 - d) Summarize recent landmark clinical trials that have influenced current treatment strategies in esophageal cancer. (5+5+5+5)

Short essays: (8x10=80)

2. Discuss patient selection criteria for Stereotactic Body Radiotherapy in liver metastases. Describe dose-fractionation schedules, radiobiological considerations, and organ-at-risk constraints in liver SBRT. (5+5)
3. Motion management in radiation therapy.
4. Discuss the mechanism of action of combined PD-1 and CTLA-4 inhibition. Describe the toxicity profile, clinical indications, and practical considerations of dual checkpoint blockade. (5+5)
5. Discuss the role of immunotherapy in bladder cancer. Describe the integration of immunotherapy with bladder-preserving chemoradiotherapy (CRT), including rationale, clinical evidence, and practical considerations. (5+5)
6. Circulating tumor cells in cancer.
7. Discuss the principles of MRI-guided brachytherapy. Describe the clinical benefits of MRI-guided brachytherapy compared to conventional techniques. (5+5)
8. FLASH radiotherapy.
9. Hypofractionation and ultra-hypofractionation in Prostate Cancer.
