

RADIOTHERAPY

PAPER - I

RTH/D/13/41/I

Time : 3 hours
Max. Marks : 100

Important instructions:

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin space.
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

1. What are the various pathways described for targeted therapy? Enumerate one molecule/drug for each pathway. 6+4
2. Enumerate various HIV associated malignancies. Write the radiation dose, schedule and recommendation for radiation portals in primary CNS Non Hodgkin's lymphoma. 3+7
3. What are the incremental gains when using image guidance in teletherapy? Enumerate gantry mounted and peripherally placed solutions in use for image guidance. 5+5
4. What are various markers available for ovarian tumours? How do you use them in overall management of ovarian tumours? 10
5. What are various acceptance tests done before commissioning a linear accelerator for patient treatment? 10
6. Draw the beam profile of an electron beam and label its various parts. When treating a breast lumpectomy cavity of size 3x4cm, at a maximal depth of 3cm from skin, what will be the size of the electron portal and which energy will be suitable? 5+5
7. What are the indications of para aortic irradiation? Describe various techniques and doses for the indications you mention. 3+7
8. Write the evidence for the use of radiotherapy in the palliation of bone metastases, especially with regard to (i) technique (ii) time - dose - fractionation and (iii) response. 10
9. Describe the integration of chemotherapy and radiotherapy along with other local therapies in the management of retinoblastoma treated either for cure or palliation. 10
10. Discuss indications, techniques and results of intraluminal brachytherapy. 3+4+3
