RADIOTHERAPY

PAPER - IV

RTH/D/13/41/IV

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 is 'crude' and 'actuarial' survival? How is a Kaplan-Meier curve computed?	5+5
2.	Describe sequence of events in bone marrow when subjected to chemoradiation or radiation therapy. How do you manage marrow toxicity induced by chemo RT?	6+4
3.	What are conventional intensity modulators? Describe them and explain their various uses at different clinical sites?	2+8
4.	What is DVH? Describe its utility. Enumerate/portray an acceptable and unacceptable DVH for one tumour and one normal tissue site of your choice.	2+3+5
5.	What is the pharmacology of Temozolomide as it is given with brain irradiation, and what are treatment schedules and dose prescription with Temozolomide.	5+5
6.	What is linear quadratic model? What does alpha/beta ratio signify and explain its application in treating any one tumour site of your choice?	5+5
7.	What is the treatment for (i) low risk (ii) Intermediate risk and (iii) high risk prostate adenocarcinoma? What is the evidence for dose escalation in prostate cancer?	2.5 X 4
8.	Define thermoluminescent dosimeter (TLD). Discuss its mechanism of action. Name four materials used for TLD.	5+2+3
9.	What are deterministic and stochastic effects of radiation? Give examples.	7+3
10.	Describe a model report of a histopathological assessment of a modified radical mastectomy for adenocarcinoma of the breast? What aspects will you focus on to tailor your treatment decisions?	5+5

****