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