

The West Bengal University of Health Sciences
M.D. (Radiotherapy) May - June, 2022 Examination

Paper: II

Full Marks: 100
Time : 3 Hours

Answer all questions

1. Physical properties & clinical applications of electron beam. 6+4
2. Define LET, RBE and OER and their implications in radiotherapy. 10
3. Describe various dose rates used in brachytherapy. What are the advantages and disadvantages of high dose rate brachytherapy as compared to low dose rate? 3+7
4. What is linear quadratic model? What does alpha/beta ratio signify and explain its application in treating any two tumour sites of your choice? 2+8
5. What do you mean by Peptide Receptor Targeted Therapy (PRTT)? Write down the principle, use, and limitations of PRTT in treating Neuroendocrine Tumour with Supportive evidence. 10
6. Describe the different types of interaction of photon with matter and their clinical relevance. 10
7. Discuss indication, technique & limitation of adaptive radiotherapy. 3+5+2
8. What is tomotherapy? Discuss its principle and construction. How it differs from linac based arc therapy? 2+6+2
9. Describe LQ model. Discuss radiobiology in stereotactic radiotherapy. 7+3
10. Discuss recent advances in a Linear accelerator. Enumerate quality control tests done on a Linear Accelerator. 4+6