

**Third Year B.Sc MRT Degree Regular/Supplementary Examinations
August 2021**

Radiotherapy II

Time: 3 Hours

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*

Essays: (3x10=30)

1. Discuss the causes of breast cancer. Describe the management of breast cancer. How will you simulate a patient with breast cancer treated by BCT (breast conservation treatment) technique for 3D CRT.
2. Staging and management of carcinoma cervix and describe the radiation planning in carcinoma cervix.
3. HDR brachytherapy. Describe the HDR brachytherapy treatment in detail for carcinoma cervix

Short notes: (8x5=40)

4. Precautions taken before radiation treatment for head and neck malignancies.
5. Describe the beam directed radiotherapy treatment technique in cobalt machine for a patient with stage I cancer of vocal cord.
6. What is stereotactic radiotherapy. Explain its principles and advantages.
7. Describe techniques and complications of electron beam therapy.
8. Shielding in radiotherapy
9. ICRU
10. Intra-operative radiotherapy
11. Dose volume histogram

Answer briefly: (10x3=30)

12. Normal tissue tolerance for vital organs
13. Immobilization devices
14. Treatment verification in radiotherapy
15. Arc-therapy
16. Image guided radiotherapy
17. Cranial prophylactic radiotherapy
18. Late side effects of radiotherapy
19. Concurrent chemoradiation and give two examples
20. Differences between gamma knife and cyber knife
21. Proton beam radiotherapy