

**Third Year B.Sc MRT Degree Supplementary Examinations  
January 2020**

**Radiotherapy II**

**Time: 3 Hours**

**Max Marks: 100**

- **Answer all questions**
- **Draw diagrams wherever necessary**

**Essays:**

**(3x10=30)**

1. Describe the technique for radiation therapy of astrocytoma grade III and what kind of reaction will you expect during radiation treatment of skull region
2. Describe the parts of a linear accelerator. Discuss about the acceptance testing of linear accelerator.
3. Describe the different treatment techniques - VMAT, IGRT, 3DCRT and discuss the advantages of VMAT treatment technique over conventional 2 D treatment technique

**Short notes:**

**(8x5=40)**

4. Immobilization of a patient for SRT treatment.
5. Define IGRT (Image Guided Radiotherapy) and specify the requirements for an ideal image guidance system in radiotherapy
6. Laser alignment in radiotherapy
7. Hemi body irradiation
8. Describe the setting up of a patient for cranio spinal axis radiation
9. Stereo tactic radiotherapy
10. Collimators
11. Image registration in radiotherapy planning

**Answer briefly:**

**(10x3=30)**

12. Dose volume histogram
13. Clinical applications of electron beams
14. Port film and its role in RT
15. The daily QA procedure to be performed on a linear accelerator.
16. Toxicities of Head & Neck Radiotherapy
17. Intra luminal brachytherapy
18. State with diagram PTV, CTV, GTV.
19. Dental care in radiotherapy
20. Particle beam radiotherapy
21. Immobilization devices