

**Third Year B.Sc MRT Degree Examinations March 2018**

**RADIOTHERAPY II**

**Time: 3 Hours**

**Max Marks: 100**

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

**Essays:**

**(3x10=30)**

1. What are the different dose rates used in brachytherapy. Describe biological basis of HDR and PDR brachytherapy and advantages and disadvantages of each.
2. Describe the relevance of time, dose and fractionation in radiotherapy. Add a note on altered fractionation
3. Describe the radiation treatment technique for carcinoma nasopharynx.

**Short notes:**

**(8x5=40)**

4. Flattening filter free
5. Treatment planning system
6. Arc therapy
7. Dose volume histogram
8. Percentage depth dose (PDD), its relevance in radiotherapy and factors affecting PDD
9. Concurrent Chemoradiation.
10. Immobilisation devices used in Radiotherapy
11. Interaction of photons with matter

**Answer briefly:**

**(10x3=30)**

12. Half value layer
13. Multi leaf collimator
14. Bolus
15. Oncogenes
16. Linear energy transfer
17. Cell survival curve
18. Wedge filter
19. Target volumes in radiotherapy
20. Acute radiation toxicity of skin
21. Brachytherapy sources

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