

QP CODE: 303018

Reg. No.....

Third Year B.Sc MRT Degree Examinations March 2017

RADIATION PHYSICS II

Time: 3 Hours

Max Marks: 100

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

Essays: **(3x10=30)**

1. Explain with neat diagram of tele cobalt machine and types of shutter mechanism.
2. Explain about different modalities involved in treatment verification EBRT
3. Explain TAR and factors affecting TAR.

Short notes: **(8x5=40)**

4. CT simulator.
5. Characteristics of phantom material.
6. Beam modifying devices.
7. Intra cavitory brachytherapy
8. Advantages of conventional and conformal RT
9. Factors that affect the TMR
10. What is a DRR. Explain its use in radiotherapy.
11. Physics of build up

Answer briefly: **(10x3=30)**

12. Gross tumour volume (GTV)
13. Three advantages of multi leaf collimator (MLC) over conformal blocks
14. Bolus materials.
15. Difference between SSD and SAD
16. Shielding blocks
17. XYZ co-ordinate in treatment set up.
18. What is remote after loading. What are its advantages.
19. Why is a scattering foil used in a linear accelerator.
20. Parameters required to calculate treatment time in EBRT.
21. Types of beam collimation in linac.
