

QP CODE: 303018

Reg. No.....

**Third Year B.Sc MRT Degree Supplementary Examinations
August 2017**

RADIATION PHYSICS II

Time: 3 Hours

Max Marks: 100

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

Essays: (3x10=30)

1. Explain PDD and factors affecting it.
2. Explain with neat diagram standing waveguide and traveling waveguide and write the advantageous of one over the other.
3. Explain isodose curves and its parameters.

Short notes: (8x5=40)

4. Difference between linac and cobalt therapy related to physical aspects.
5. IGRT
6. Tissue compensators.
7. Klystron
8. Betatron
9. Tongue and groove effect.
10. Wedge angle and hinge angle and its relationship.
11. Patient specific quality assurance of an IMRT treatment. Why this has to be performed.

Answer briefly: (10x3=30)

12. Define planning target volume (PTV)
13. Explain why thick target is used in linear accelerator.
14. What are point A and point B in brachytherapy.
15. Draw PDD for CO-60, 6 and 15MV photons and compare.
16. Ion chambers in linac.
17. Isotopes used in nuclear medicine.
18. Properties of Ir-192 source.
19. IORT
20. Importance of immobilization devices.
21. Isocentre
