

QP CODE: 303018

Reg. No.....

Third Year B.Sc MRT Degree Examinations February 2019

Radiation Physics II

Time: 3 Hours

Max Marks: 100

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

Essays:

(3x10=30)

1. List different types of beam modifiers used in external beam radiotherapy.
Describe in detail the types of wedges and its uses.
2. Explain the interaction of electrons with matter
3. Explain with neat block diagram the basic components of a clinical linear accelerator and its functions.

Short notes:

(8x5=40)

4. PDD
5. Any three uses of gamma rays and X-rays
6. Steps involved in 3 fields RT technique with ca oesophagus
7. TAR
8. IGRT
9. The manual and remote controlled brachytherapy.
10. CT simulator and steps involved in detail.
11. Physical properties for an ideal shielding material.

Answer briefly:

(10x3=30)

12. SSD treatment
13. Bolus and its uses
14. Brachytherapy sources
15. Cerrobend material composition, melting point and its density
16. Half-life and its derivation
17. KERMA
18. Electron cones.
19. Different types of Brachytherapy
20. LDR and HDR
21. Multi leaf collimator
