

QP CODE: 303018

Reg. No.....

**Third Year B.Sc MRT Degree Supplementary Examinations
October 2022**

Radiation Physics II

Time: 3 Hours

Max Marks: 100

- *Answer all questions to the point neatly and legibly* • *Do not leave any blank pages between answers* • *Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together* • *Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Essays:

(3x10=30)

1. List out the isotops used in brachytherapy. Discuss in detail Ir 192 HDR brachytherapy technique.
2. Discuss the parameters affecting isodose curves.
3. Explain with Neat Block Diagram of Basic Components of a Clinical Linear Accelerator and its Functions.

Short notes:

(8x5=40)

4. I 131.
5. Describe PDD(Percentage Depth Dose).
6. Bone seeking radio pharmaceuticals.
7. Inverse planning.
8. Discuss the Manchester system of dose calculation in intra cavity brachytherapy.
9. SRS.
10. Interactions of electrons.
11. Surface moulds.

Answer briefly:

(10x3=30)

12. CO 60.
13. Define GTV, CTV, PTV.
14. Tissue maximum ratio.
15. Define D max.
16. Penumbra.
17. Bragg peak.
18. Cyclotron.
19. Differential DVH.
20. Biological half life.
21. Exposure rate constant.
