

QP CODE: 201018

Reg. No.....

**Second Year B.Sc MRT Degree Supplementary Examinations
October 2023**

Radiation Physics I

Time: 3 Hours

Total 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*

Essays:

(3x10=30)

1. Explain in detail the physics of X- ray production in an X – ray tube with the help of a diagram.
2. Explain the ways in which ionizing radiation interacts with matter.
3. Explain the effects of X- rays and their application.

Short notes:

(8x5=40)

4. Linear Accelerator
5. 3- phase generator
6. Factors affecting X –ray production
7. Narrow and broad beam geometry
8. Free Air Ionization Chamber
9. Inherent and added filtration
10. Grid
11. Tomography

Answer briefly:

(10x3=30)

12. Mammography tubes
13. Autotransformer
14. HVL
15. Amorphous silicon flat panel detector
16. H and D curve
17. Modulation Transfer Function
18. Digital Subtraction Angiography
19. Different generation of CT unit
20. Electronic equilibrium
21. Heel effect
