

QP CODE: 201018

Reg. No.....

**Second Year B.Sc MRT Degree Supplementary Examinations
July 2021**

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 the various interactions of electromagnetic radiation with matter. What is their importance in diagnostic radiology and radiotherapy.
2. What are the various units used in the measurement of ionizing radiation. How exposure is measured using a free air ionization chamber.
3. With the help of a neat diagram explain the operation of a rotating anode X ray tube.

Short notes:

(8x5=40)

4. Computed tomography
5. GM Detector
6. Factors affecting quality and quantity of X rays
7. Evaluation of grid performance
8. Thermo luminescent dosimeter
9. Mammography
10. Half wave and full wave rectifier
11. Quality Assurance in Diagnostic radiology

Answer briefly:

(10x3=30)

12. Characteristic X rays
13. Intensity of X ray around focal spot
14. Auto transformer
15. Latent image
16. Exposure rate constant
17. Quantum mottle
18. Xeroradiography
19. Filament current and tube current
20. Inherent filtration
21. Heel Effect
