

QP CODE: 201018

Reg. No.....

**Second Year B.Sc MRT Degree Regular/Supplementary
Examinations December 2020**

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. Describe the components of an X ray tube with the help of a neat diagram.Explain the functions of each components
2. Explain interactions of photons with matter
3. Describe in detail the thermionic emission and its applications in modern radiology.

Short notes:

(8x5=40)

4. Anode heel effect
5. Pair production
6. Unsharpness in X ray image
7. Linear accelerator
8. Interaction of electrons with matter
9. Line focus principle
10. Timers in X-ray
11. Intensifying screens

Answer briefly:

(10x3=30)

12. What is ionization. What is the minimum energy required for ionization.
13. Digital radiography
14. Flat panel detectors
15. X ray tube housing
16. Explain subject contrast in diagnostic radiology.
17. Speed and latitude
18. Penumbra in Diagnostic Radiology
19. Myelography
20. Film development
21. Autotransformer.
