

QP CODE: 201018

Reg. No.....

**Second Year B.Sc MRT Degree Regular/Supplementary Examinations
April 2024**

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 Quality Assurance in diagnostic X –ray machine
2. Explain the description and working of common gas filled radiation detectors
3. Explain the principle of Computed Tomography. Briefly explain the various generations of CT

Short notes: (8x5=40)

4. Dental radiography
5. Constructional details of an X - Ray film
6. Quantum mottle
7. Derive the relation between TVL and HVL
8. Thermo Luminance Dosimeter (TLD)
9. Scintillation detectors
10. He-Ne Laser
11. Effect of filtration

Answer briefly: (10x3=30)

12. Thermionic emission
13. Spiral CT
14. Penumbra
15. Various Grids
16. Stroboscopic effect
17. Intensifying and fluorescent screen
18. Heavy metal filter
19. Chemical dosimeters
20. 'Definition of exposure is not valid beyond 3MeV' Why
21. Heel effect and its application
