

QP CODE: 304018

Reg. No.....

**Third Year B.Sc MRT Degree Supplementary Examinations
October 2025
Radiological Protection and Statutory Aspects**

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. Explain cell survival curve and 4R's of radiobiology.
2. Radiation protection measures in a Nuclear Medicine Department.
3. Describe the gas filled detectors and their principles.

Short notes:

(8x5=40)

4. Thermoluminescent dosimeters.
5. Radiation weighting factor and Tissue weighting factor.
6. Radiation emergencies in brachytherapy.
7. Explain the radiation dose limits specified by ICRP.
8. Radioactive waste management in nuclear medicine.
9. Describe the different sources of radiation.
10. Area monitoring devices.
11. QA in mammography unit.

Answer briefly:

(10x3=30)

12. Half value layer.
13. TREM CARD in the transport of radioactive material.
14. Oxygen Enhancement Ratio (OER).
15. Inverse square law.
16. Last Man Out switch.
17. Define exposure and write its SI unit.
18. Installation of X-ray facility.
19. Effect of radiation on fetus.
20. Survey meter.
21. Radiation induced chromosomal damage.
