

QP CODE: 304018

Reg. No.....

**Third Year B.Sc MRT Degree Regular/Supplementary Examinations
August 2019**

Radiological Protection and Statutory Aspects

Time: 3 Hours

Max Marks: 100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays:

(3x10=30)

1. Explain the annual effective dose limits as prescribed by the atomic energy regulatory board (AERB) and ICRP recommendation for radiation worker, member of the public and pregnant radiation worker
2. Sketch the graph giving the variation of pulse amplitude against the applied voltage for gas filled detectors and indicate the regions on the graph and discuss the type of detectors at various regions
3. Explain about the somatic and hereditary effects of radiation with example.

Short notes:

(8x5=40)

4. Principles of radioactive waste management in nuclear medicine.
5. QA test in diagnostic X-ray
6. Emergency action plan in brachytherapy.
7. Radiation protection of patients.
8. Radiation protection and need for protection of a pregnant radiographer
9. Equivalent and effective dose.
10. Direct and indirection action.
11. Single and double strand breaks. Explain them with neat diagram

Answer briefly:

(10x3=30)

12. The level of exposure in working area is 2 mR/hr. How long one should permit to work per day without exceeding the weekly permissible dose limit.
13. What is the relationship between time and exposure
14. Late effect of radiation.
15. Deterministic effect
16. Tissue weighting factors
17. OER
18. Area monitor.
19. Typical layout of X-ray room
20. Internal radiation
21. Type B package in source transport.
