

QP CODE: 304018

Reg. No.....

**Third Year B.Sc MRT Degree Supplementary Examinations
January 2020
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 in detail different types QA in Linac with a set up diagram.
2. Explain in detail of different regions in gas filled detector.
3. Explain in detail about radiation emergencies in tele therapy and brachytherapy.

Short notes:

(8x5=40)

4. Waste management of radioactive effluent in nuclear medicine.
5. Fractionation in radiotherapy.
6. The level of exposure in the near head of cobalt machine is 5microR/hr. If a person takes a time of 3 minutes to set a patient what is the dose he received.
7. Collisions and interlock in Linac.
8. Steps involved in radiation exposure to public in CT simulation in case of paediatric patient.
9. Importance of MLC and customized block.
10. Single and double strand breaks
11. Pocket dosimeter.

Answer briefly:

(10x3=30)

12. Define exposure and its unit.
13. Advantages of LMO switch.
14. Autoradiography in brachytherapy.
15. RHM
16. ALARA
17. Gamma zone monitor.
18. Protective tools used in brachytherapy.
19. Stochastic effect
20. Disposal of Ir-192 source.
21. The dose rate is 10 μ Sv/hr at 5 cm from the door of Linac what is the dose rate at 150cm.
