

QP CODE: 304018

Reg. No.....

**Third Year B.Sc MRT Degree Supplementary Examinations
October 2022
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 the construction and working of a Thermos Luminescent Dosimeter (TLD) with diagram.
2. Explain in detail about thimble chamber.
3. Explain the relationship between KERMA, exposure and absorbed dose.

Short notes:

(8x5=40)

4. Explain single and double strand breaks with neat labelled diagram.
5. How does time, distance and shielding affect in control of radiation.
6. Explain the procedure of congruence test for optical field and radiation field in linac.
7. Discuss the effects of radiation on DNA.
8. RBE and LET.
9. Explain workload, use factor and occupancy factor in RT.
10. Explain survey meter.
11. Cell cycle.

Answer briefly:

(10x3=30)

12. Exposure rate constant.
13. Primary and secondary barriers.
14. TVT (Tenth Value Layer).
15. Transport index.
16. Tremcard.
17. Protection survey in radiology.
18. Emergencies in linac.
19. Radiation weighting factor.
20. LD50.
21. ALARA.
