

**QP Code: 108391**

**Reg. No.....**

**Post M.Sc Diploma in Radiological Physics Regular/Supplementary  
Examinations November 2020**

**Radiation Safety**

**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*
- *Use of Calculators/physical and mathematical tables permitted.*

**Essay:**

**(2x14=28)**

1. Explain the system of radiological protection.  
A technician is handling a 5mCi Co-60 source from a distance of 30Cm. Within what time He/ She will receive the Daily permissible dose equivalent. (10+4)
2. Discuss the various factors to be considered in the planning of a high energy medical linear accelerator facility

**Short Essays**

**(4x8=32)**

3. What are the different types of exposure. Discuss each one in detail.
4. What are personnel monitoring. Discuss the different methods used to measure the dose received by a person working in a radiation facility.
5. Discuss the different measures used to reduce the radiation exposure to staff and patients in a X-ray diagnostic facility.
6. Briefly discuss classification of radioactive waste and general methods of their disposal.

**Short Notes**

**(10x4=40)**

7. Radiation weighting factors
8. ALI
9. Radiation hazards in nuclear medicine facility
10. Transport documents required for radioactive materials
11. Responsibilities of radiation workers as per RPR
12. Radiation accidents in the use of radiation sources
13. Special safety features in HDR brachytherapy machines
14. ICRP
15. Radiation dose from manmade sources
16. Effect of Time on external radiation hazard

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