

**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

[AHS 0321]

**MARCH 2021**

**Sub. Code: 2304**

**(OCTOBER 2020 EXAM SESSION)**

**M.Sc. NUCLEAR MEDICINE TECHNOLOGY**

**FIRST YEAR (From 2019-2020 onwards)**

**PAPER IV – RADIATION PHYSICS AND RADIATION CHEMISTRY**

*Q.P. Code : 282304*

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate notes on:**

**(2 x 20 = 40)**

1. Explain the construction and production of Radionuclides in a cyclotron.
2. Write in detail about different types of chromatography.

**II. Write Short Notes on:**

**(10x6 = 60)**

1. Explain alpha decay with an example.
2. Derive the relationship between decay constant with half life.
3. Radio isotopes used in Nuclear Medicine.
4. Proportional counters.
5. Single channel analyser system.
6. Describe the electrovalent, ionic bond.
7. Radiochemical purity.
8. Hydrogen Ion concentration.
9. Valency and Atomic Weight.
10. Chelating agents.

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