

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

[AHS 1022]

**OCTOBER 2022**

**Sub. Code: 2304**

**M.Sc. NUCLEAR MEDICINE TECHNOLOGY**

**FIRST YEAR**

**(Candidates admitted from 2019-2020 onwards – Paper IV)**

**(Candidates admitted from 2020-2021 onwards – Paper V)**

**PAPER IV & V – RADIATION PHYSICS & RADIATION CHEMISTRY**

*Q.P. Code : 282304*

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate notes on:**

**(2 x 20 = 40)**

1. Describe in detail about types of radioactivity and explain physical characteristics Tc-99m and F-18 isotope commonly used in nuclear medicine application.
2. Explain about construction and functioning of gas filled radiation detectors.

**II. Write Short Notes on:**

**(10x6 = 60)**

1. Explain the principle of thermo luminescence dosimeter.
2. Write about hydrogen ion concentration.
3. Write about covalent bonding.
4. Differentiate between solute and solvent.
5. Write about molecular structure.
6. Explain about beta minus decay with example.
7. Write about pair production.
8. Explain about chemical reaction.
9. Write about sub atomic particles.
10. Explain the function of scintillation detectors.

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