

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

[AHS 1023]

OCTOBER 2023

Sub. Code: 2307

M.Sc. NUCLEAR MEDICINE TECHNOLOGY  
FIRST YEAR (From 2020-2021 onwards)  
PAPER VIII – RADIOPHARMACY - I

*Q. P. Code: 282307*

**Time: Three hours**

**Maximum : 100 Marks**

**Answer ALL Questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Solvent extraction, Column and Gel type generator.
2. Synthesis of PET radiopharmaceuticals.

**II. Write notes on:**

**(10 x 6 = 60)**

1. Additives and preservatives.
2. Reactor produced radionuclide.
3. Oxidation states of  $^{99m}\text{Tc}$  in  $^{99m}\text{Tc}$  Radiopharmaceuticals.
4. Basic principle of  $^{99m}\text{Tc}$ -Labelled Red Blood Cells.
5.  $^{82}\text{Sr}$ -  $^{82}\text{Rb}$  Generator.
6. Transient and Secular Equilibrium.
7. Difference between Colloid and MAA particles.
8. Myocardial imaging Tracer for SPECT and PET.
9. Specific Activity.
10. Cyclotron produced radionuclide.

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