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

[AHS 0222] **FEBRUARY 2022** **Sub. Code: 2307**
(OCTOBER 2021 EXAM SESSION)

M.Sc. NUCLEAR MEDICINE TECHNOLOGY
FIRST YEAR
(Candidates admitted from 2019-2020 onwards – Paper VII)
(Candidates admitted from 2020-2021 onwards – Paper VIII)
PAPER VII & VIII – RADIOPHARMACY - I
Q.P. Code : 282307

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate notes on: **(2 x 20 = 40)**

1. Rb^{82} generator system.
2. Production of N^{13} in cyclotron.

II. Write Short Notes on: **(10x6 = 60)**

1. Mechanism of Tc^{99m}ECD complex.
2. Enumerate on wet and dry generator Tc99m system.
3. Tc99mPlatlet labeling methods.
4. Formulation of Tc99mMIBI.
5. Chemical structures of Tc99mTetrofosmin, Tc99mMDP.
6. Thin layer chromatography & Retardation factor.
7. Criteria's for selecting Radionuclide's for therapy and diagnostic nuclear medicine.
8. Modified In-Vitro RBC labeling method.
9. Synthesis of ^{18}FDG.
10. Tc99m Sulphur colloid labeling for Lymphoscintigraphy.

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

[AHS 0522] **MAY 2022** **Sub. Code: 2307**

M.Sc. NUCLEAR MEDICINE TECHNOLOGY
FIRST YEAR
(Candidates admitted from 2019-2020 onwards – Paper VII)
(Candidates admitted from 2020-2021 onwards – Paper VIII)
PAPER VII & VIII – RADIOPHARMACY - I
Q.P. Code : 282307

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

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6. Thin layer chromatography & Retardation factor.
7. Criteria's for selecting Radionuclide's for therapy and diagnostic nuclear medicine.
8. Modified In-Vitro RBC labeling method.
9. Synthesis of ^{18}FDG.
10. Tc99m Sulphur colloid labeling for Lymphoscintigraphy.

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

[AHS 1022] **OCTOBER 2022** **Sub. Code: 2307**

M.Sc. NUCLEAR MEDICINE TECHNOLOGY
FIRST YEAR
(Candidates admitted from 2019-2020 onwards - Paper - VII)
(Candidates admitted from 2020-2021 onwards – Paper - VIII)
PAPER VII & VIII – RADIOPHARMACY - I

Q. P. Code: 282307

Time: Three hours **Maximum : 100 Marks**

Answer ALL Questions

I. Elaborate on: **(2 x 20 = 40)**

1. Cyclotron and Reactor produced radionuclides with suitable examples.
2. Importance of PET radiopharmacy and Radiochemistry.

II. Write notes on: **(10 x 6 = 60)**

1. Chemistry of ^{99m}-Technetium.
2. 68Ge – 68 Ga Generator.
3. Difference between Dry, Wet and Gel Type Generator.
4. Labeling method for ECD and TRODAT.
5. Criteria for selection of the radionuclides for therapy.
6. Parent-daughter equilibrium.
7. Stronger and weaker ligands with examples.
8. Radiopharmaceutical for spleen study.
9. Short lived radionuclides.
10. Specific activity.

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