[LJ 0816] AUGUST 2016 **Sub.Code :2112**

B.Sc. NUCLEAR MEDICINE TECHNOLOGY

SECOND YEAR

PAPER II – RADIOCHEMISTRY AND RADIO PHARMACY

Q.P. Code: 802112

Time: Three Hours **Maximum: 100 Marks**

Answer All questions

I. Elaborate on: **(3 x 10 = 30)**

1. Explain RBC cell labelling with Tc^{99m}.
2. Explain Solvent extraction method of separating Tc^{99m} from Mo99, and the Mo99 breakthrough test for checking the radionuclide purity.
3. Explain various radiochemical quality control procedures for radiopharmaceuticals.

II. Write Notes on: **(8 x 5 = 40)**

1. Secular Equilibrium.
2. Medical Cyclotron principle.
3. Explain the approaches to design a radio-pharmaceutical.
4. Pyrogenecity testing.
5. Tc^{99m}GHA labelling procedure.
6. Ga67 Radiopharmaceuticals and its applications.
7. Explain Open and Closed procedures done in radiopharmacy.
8. Lyophilization of cold kits.

III. Short Answers on: **(10 x 3 = 30)**

1. Mobile phase.
2. Antioxidants.
3. FDG.
4. Biological half life.
5. Ligands used for cell labeling.
6. Lympho scintigraphy tracers.
7. Chemical structure of MDP.
8. Pipetting techniques.
9. Immunology.
10. Antigen – antibody reaction.

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