[LI 0216] FEBRUARY 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. What is DMSA? Give its indication in Nuclear Medicine? Elaborate on preparation of DMSA cold kit.
2. Mechanisms of localization of radiopharmaceuticals.
3. What are the different generator produced Isotopes? Write in detail on any ONE isotope.

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

1. General methods of labeling.
2. Preparation of Tc-99m Albumin colloid.
3. Radio iodinated radiopharmaceuticals.
4. Gel chromatography.
5. Describe the methods of preparation of F18 FDG.
6. Describe the general methods of Tc99m labeling of phosphonate compounds.
7. Tc-99m Macro aggregated albumin.
8. Biological tests for radiopharmaceuticals.

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

1. Tc-99m Sestamibi.
2. Procedure to label platelets with In-111 –oxine.
3. Cardiac imaging agents.
4. Equations governing radionuclide generator systems.
5. What are Buffer solutions?
6. Coordinate covalent bonds.
7. What is the allowable radionuclide impurities in Tc99m pertechnetate?
8. Membrane filtration.
9. Radioiodination of antibody.
10. What are Colloids? What are they used for?

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