[LD 0212] **AUGUST 2013** **Sub.Code :2112**

B.SC. NUCLEAR MEDICINE TECHNOLOGY

SECOND YEAR

PAPER – II RADIOCHEMISTRY & RADIO PHARMACY

Q.P. Code: 802112

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

Answer All questions

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

1. Discuss the different radiopharmaceutical used for hepato biliary and reticuloendotehlial imaging lo liver.
2. Describe the different mechanisms of localization of radiopharmaceutical in a given organ.
3. Define radiochemical purity of a radiopharmaceutical. Describe various methods of determining the radiopharmaceutical purity

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

1. State the oxidation states of Tc99m in a.Tc99m DTPa,Tc99m albumin and Tc99m HIDA
2. What is the compound for myocardial infarct imaging? Mention the time of imaging after injection and the dose used.
3. How do you perform Meckels diverticulum imaging?
4. What is the common radiopharmaceutical used for lymphoscintigraphy? What are the common diseases that can be diagnosed?
5. Describe the different mechanisms of localization of radiopharmaceutical in a given organ.
6. What are colloids? What are they used for?
7. What is Bexar? Describe briefly about its use.
8. Mention the various ventilation scan agents.

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

1. How will you separate I131 from the fission products of U235?
2. What is the mechanism of localization of MAA in the lungs?
3. State the recommended temperature for storage ofTc9m sulfur colloid.
4. How will you separate I131 from the fission products of U235?
5. Why do you wait for 3 hours for bone scan imaging after injection?
6. Mention the dose limits of packages of radioactive material.
7. What is the recommended temperature for storage of Tc99m MAA**?**
8. Why is I131 MIBG is taken up by neuro blastoma?
9. What are the most useful phosphonate compounds for bone imaging?
10. State the disadvantage of liquid column generator (Solvent extraction)

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