[LQ 0220] FEBRUARY 2020 **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 the mechanism and localization of radiopharmaceuticals.
2. Explain the various equilibrium's in generator produced radionuclides.
3. Explain the principles of cyclotron produced radionuclieds with examples.

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

1. Lyophilization of cold kit.
2. Ga67 radiopharmaceuticals and its applications.
3. Chromatography.
4. Reactor produced radionuclides.
5. Basic principles of radio iodination.
6. Radiochemical purity.
7. Co2 urea breathe wave test.
8. LAL test.

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

1. List the ideal characteristics of a radionuclide generator.
2. Gel chromatography.
3. What are buffer solutions?
4. Why is the specific activity of fission produced Isotopes are higher than those in reactor (n.γ)?
5. State the oxidation states of Tc99m in a Tc99m DTPa Tc99m albumin and Tc99m HIDA.
6. Why is Tc99m RBC preferred to Tc99m sulfur colloid in GI bleeding scan?
7. Mention the maximum energy of beta particle and energy of gamma ray in I 131.
8. Chemical structure of DTPA.
9. Mention the different radiopharmaceutical used for cerebral perfusion imaging.
10. HPLC.

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