

**M.D. DEGREE EXAMINATION**  
**BRANCH XXIV – NUCLEAR MEDICINE**  
**PAPER II – CLINICAL NUCLEAR MEDICINE INCLUDING RADIO**  
**PHARMACEUTICALS AND THEIR APPLICATIONS**

*Q.P. Code :203002*

**Time : Three Hours**

**Maximum : 100 Marks**

**I. Elaborate on:**

**(2 x 15 = 30)**

1. The different histologies of malignant lymphoma and the role of PET-CT in each of them.
2. Applications of nuclear scintigraphy in epilepsy.

**II. Write notes on:**

**(10 x 7 = 70)**

1. Investigation of a patient with bone metastases.
2. Scintigraphy in endometrial carcinoma.
3. Protocols of exercise stress in myocardial perfusion SPECT study.
4. Role of whole body radioiodine scintigraphy in papillary carcinoma thyroid.
5. SPECT imaging - current applications in inflammation.
6. <sup>98</sup>Ga-DOTATATE therapy- current practice.
7. Lung perfusion scintigraphy.
8. Tyrosine kinase inhibitors.
9. <sup>18</sup>F bone scintigraphy.
10. <sup>68</sup>Ga- DOTATATE.

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**I. Elaborate on:**

**(2 x 15 = 30)**

1. Iodination techniques.
2. In-vivo non imaging studies.

**II. Write notes on:**

**(10 x 7 = 70)**

1. Mechanism of localization of radiopharmaceuticals.
2. Quality control of Tc99m eluate.
3. Myocardial perfusion imaging.
4. Lymphoscintigraphy.
5. Radiopharmaceuticals for infection imaging.
6. Gastric emptying study.
7. PET CT in lymphoma.
8. Management of medullary carcinoma thyroid.
9. Cyclotron produced Radionuclides, elaborate on F-18.
10. Principles of a radionuclide generator.

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