

**NUCLEAR MEDICINE**

PAPER-III

NM/D/18/24/III

Time: 3 hours

Max. Marks:100

**Important Instructions:**

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin space.
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

**Write short notes on:**

1. Enumerate and evaluate different cardiac PET perfusion agents. Write about their advantages over cardiac SPECT perfusion agents. 6+4
2. Evaluation of solitary thyroid nodule according to latest American Thyroid Association (ATA) guidelines. What is the role of nuclear medicine for the same? 8+2
3. a) Tau protein imaging in dementia. 5+5  
b) Gastric emptying scintigraphy.
4. a) Adverse effects of peptide receptor radionuclide therapy. 5+5  
b) Nuclear medicine imaging in renovascular hypertension.
5. Evaluation of cardiac sarcoidosis with F-18 FDG PET/CT. 10
6. a) Role of serum thyroglobulin estimation in differentiated thyroid cancer. 5+5  
b) Role of nuclear medicine in autonomous functioning thyroid nodule (AFTN).
7. a) In-vitro GFR estimation. 5+5  
b) Indications of Tc-99m Sulphur colloid imaging.
8. Radiopharmaceutical therapy for lymphoma. 10
9. a) Appropriate Use Criteria (AUC) for V/Q scan in pulmonary embolism. 5+5  
b) Urea breath test.
10. a) Pharmacological interventions in hepatobiliary scintigraphy in extra-hepatic biliary atresia (EHBA). 5+5  
b) Myocardial perfusion scintigraphy (MPS) stress protocol in conduction abnormalities.

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