

**NUCLEAR MEDICINE**

PAPER – III

NM/J/16/24/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. Role of PET in: 5+5
  - a) Prostate malignancy.
  - b) SPN and lung cancer management.
2.
  - a) Respiratory gating. 3+4+3
  - b) SUV and its pitfalls
  - c) TOF
3.
  - a) NIS (Sodium Iodide Symporter) 5+5
  - b) Novel therapies in I<sup>131</sup> refractory thyroid cancers.
4. Alpha and beta emitters in Radionuclide therapy of Medullary Thyroid cancer. 5+5
5. Renogram and its alterations in disease process. 10
6. A thyroid cancer patient was admitted in Nuclear Medicine isolation room after receiving 150mCi I<sup>131</sup> therapy. He developed massive acute myocardial infarction and died at 48 hour post administration. What is the procedure to dispose his body? 10
7.
  - a) Enumerate upon treatment modalities in hyperthyroid disease. 4+6
  - b) Elaborate on radioiodine treatment planning and management.
8.
  - a) Bone palliation 5+5
  - b) TENIS
9.
  - a) Define spill. 2+5+3
  - b) How do you manage a radiation accident?
  - c) What is INES?
10. AERB norms in designing of a state of the art Nuclear Medicine Department. 10

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