

NUCLEAR MEDICINE**PAPER-IV**Time: 3 hours
Max. Marks:100

NM/J/20/24/IV

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. a) Stochastic and non-stochastic effects of radiation. 5+5
b) Acute radiation syndrome.
2. Safe disposal of radioactive waste in a department performing SPECT, PET and RAIU. 10
3. How will you manage the death of thyroid cancer patient in isolation ward treated with high dose of radioactive iodine? 10
4. QC tests for radionuclide dose calibrator. 10
5. a) Hospital Radiation safety committee. 5+5
b) Delay Tank.
6. TKIs in thyroid cancer: their specific role, mechanism of action and side effects. 10
7. Role of Nuclear Medicine in stem cell imaging. 10
8. Describe following recent advances: 5+5
a) Digital PET
b) FAPI PET
9. Describe about following recent advances: 5+5
a) Total Body PET scanner (long-axial-field-of-view scanner)
b) Artificial Intelligence in Nuclear Medicine
10. a) Radiomics. 5+5
b) ^{99m}Tc -Tilmanocept.
