

NUCLEAR MEDICINE

PAPER – IV

NM/J/16/24/IV

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. a) Filters in Nuclear Medicine and their applications. 5+5
b) Avalanche Photodiode Vs Silicon photodiodes.
2. a) Phase analysis. 5+5
b) Partial volume effect and its corrections.
3. a) Scintigraphic imaging of dementia. 5+5
b) O^{15} generator
4. a) Theragnostic and its future. 5+5
b) Importance of PET in drug development.
5. a) Importance of decay scheme 2+(4+4)
b) Decay scheme of ^{99m}Tc and ^{177}Lu .
6. a) What do you mean by GMP? 5+5
b) Elaborate the guidelines pertaining to In-House production of Radio-pharmaceuticals.
7. Significance of isolation ward with effective disposal of excreta as per AERB norms. 10
8. a) ^{18}F -Tau imaging 5+5
b) ^{18}F -FET
9. a) Regulations pertaining to transport of radioactive material 5+5
b) Role of AERB and ICRP in Nuclear Medicine.
10. Genomics of thyroid cancer. 10
