

NUCLEAR MEDICINE**PAPER – I**

Time : 3 hours
Max. Marks : 100

NM/D/17/24/I

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. | Quality assurance tests to planar and SPECT gamma camera. | 10 |
| 2. | Emergency handling in high dose radionuclide therapy. | 10 |
| 3. | Define following:
a) Absorbed dose
b) Equivalent dose
c) Effective dose
d) Biologically equivalent dose | 2.5x4 |
| 4. | Filtered back projection and OSEM image reconstruction algorithm. | 10 |
| 5. | Latest ICRP recommendation | 10 |
| 6. | eLORA | 10 |
| 7. | Comparison of SPECT/CT, PET/CT and PET/MR systems. | 10 |
| 8. | Interaction of Radiation with matter. | 10 |
| 9. | Binomial, Poisson and normal probability distribution. | 10 |
| 10. | Modes of Radionuclide decay. | 10 |
