

NUCLEAR MEDICINE

PAPER – IV

NM/D/15/24/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.	What is partial volume effect in PET/CT? Describe the methods of its correction.	4+6
2.	a) What are various types of clinically useful PET radionuclide generator systems? b) Working of Strontium 82/Rubidium 82 generator	4+6
3.	a) Advantages, disadvantages and potential applications of PET-MR. b) Principles of operation of medical cyclotron and describe various mode of medical cyclotron available in the country.	5+2+3
4.	a) Coronary flow reserve b) Nuclear Medicine procedures in assessment of cardiac dys-synchrony.	5+5
5.	Why is SUV important? How it is calculated? Enumerate factors affecting SUV.	2+3+5
6.	a) Scintigraphic imaging of Alzheimer's disease b) Fluorinated amino-acids in brain tumor imaging	5+5
7.	a) Role of preclinical PET in medical research b) Impact of solid-state detectors in nuclear cardiology	5+5
8.	Current status of theranostics in the management of castration resistant prostate cancer.	10
9.	a) Cu-64 ATSM b) Angiogenesis imaging	5+5
10.	a) PET/CT in RT planning b) PET in stem cell imaging	5+5
