

NUCLEAR MEDICINE

PAPER – III

NM/J/15/24/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.	a) Classify neuroendocrine tumors. b) List out non-neuro endocrine SSR expressing tumors. c) Role of Nuclear Medicine in the diagnosis & management of neuroendocrine tumors.	2+2+6
2.	Management of thyroid cancer patients with: a) Skeletal metastases. b) Thyroglobulin elevated & Negative whole body Iodine scan.	5+5
3.	a) Lutetium-177. b) 186 Rhenium/188 Rhenium.	5+5
4.	Design a Nuclear Medicine department with PET/CT & SPECT/CT according to AERB norms.	10
5.	a) Enumerate various radioisotopes used in radio immunotherapy of lymphomas. b) Write their characteristics, advantages & disadvantages.	5+5
6.	a) Define Radiation Dosimetry. b) What are the components involved in its calculation? c) How you would calculate dose delivered to an organ by a given administered Radionuclide?	2+3+5
7.	a) SIRT. b) Radio synovectomy.	5+5
8.	a) LET. b) Dose equivalent. c) Free radicals & DNA Damage. d) rad, rem & roentgen and their relationship.	2+2+2+4
9.	a) Recent ATA guidelines for the treatment of hyperthyroidism. b) rhTSH and its uses.	5+5
10.	a) Chemical interventions used in altering the radiation effects. b) ICRP 2007.	5+5
