

NUCLEAR MEDICINE

PAPER – III

NM/D/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.	How would you calculate/prescribe the dose of Iodine-131 for the treatment of a patient with Grave's disease? Enumerate the advantages and disadvantages of these methods.	5+5
2.	a) Enumerate various radionuclides useful in bone pain palliation. b) Samarium – 153 in nuclear medicine practice.	4+6
3.	a) Clinical applications of PRRNT in adults. b) Associated technical problems and solutions.	5+5
4.	Pre-treatment workup, therapy protocol and post treatment follow up the patients for Iodine – 131 MIBG therapy.	3+4+3
5.	Decay scheme of: a) Lu – 177 b) Iodine – 131	5+5
6.	a) Principles of Radio-immunotherapy and its clinical applications b) HAMA with radionuclide monoclonal antibodies, strategies to prevent them	5+5
7.	What is radiosynovectomy? How is it advantageous over conventional methods of treatment? Enumerate the most commonly employed radiopharmaceuticals in radiosynovectomy.	2+3+5
8.	a) What are the current guidelines in management of postoperative medullary thyroid cancer? b) Novel therapies in I-131 refractory thyroid cancer.	5+5
9.	Tungsten-188/Rhenium-188(W-188/Re-188) generator and newer therapeutic radiopharmaceuticals labeled with Rhenium-188.	10
10.	a) How would you handle death of a patient in the isolation ward who has been administered 150 mCi of Iodine-131 for thyroid cancer 24 hour later? b) What will be your radiation safety advice/instructions to a young married woman of 30 years age who has been post-operatively administered 130 mCi of I-131 for papillary thyroid cancer?	5+5
