



**NUCLEAR MEDICINE**

**PAPER – III**

NM/D/14/24/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. Basic principles of internal dosimetry and briefly enumerate various anthropometric phantoms. 6+4
2. a) Dose constraint  
b) Dose limits  
c) Stochastic effects of radiation  
d) ALI (Annual Limit of Intake) 2.5x4
3. Design a two-bed high-dose radioiodine therapy Isolation Ward as per AERB norms. 10
4. a) Autonomously Functioning Thyroid Nodule (AFTN).  
b) Diffuse Large B-Cell Lymphoma. 5+5
5. Management of differentiated thyroid cancer patient with spinal metastasis. 10
6. An elderly female with long-standing multinodular goiter has recently developed atrial fibrillation, How will you proceed with investigations? 10
7. a)  $^{90}\text{Y}$ -Rituximab.  
b)  $^{223}\text{Ra}$  – Chloride. 5x2
8. Ideal Radionuclides for PRRT. 10
9. Management of pulmonary metastasis from papillary thyroid cancer in children. 10
10. How to choose the particular radiopharmaceutical for a particular joint for radiosynovectomy? 10

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