

NUCLEAR MEDICINE

PAPER-II

Time: 3 hours
Max. Marks:100

NM/J/20/24/II

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:

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| 1. | Thyroid uptake probe – working principle and uses. | 10 |
| 2. | Routes of administration of radiopharmaceuticals with examples | 10 |
| 3. | Enumerate and briefly describe generator produced PET radiopharmaceuticals. | 10 |
| 4. | What are the various quantitative PET parameters? Describe the various factors affecting such parameters. | 6+4 |
| 5. | FDG synthesis and its quality control. | 10 |
| 6. | a) Ideal characteristics of therapeutic radionuclides.
b) Tau imaging in dementia. | 5+5 |
| 7. | a) Attenuation correction.
b) Dead Time. | 5+5 |
| 8. | What are filters? Describe various types of filters in nuclear medicine. | 10 |
| 9. | Describe patient preparation & interpretation of cardiac PET-CT in the following:
a) Cardiac sarcoidosis.
b) Myocardial viability. | 5+5 |
| 10. | Glomerular and tubular renal radiopharmaceuticals – mechanism of extraction by the kidney, relative advantages and limitations. | 10 |
