FINAL EXAM
DECEMBER 2019

 NATIONAL BOARD OF EXAMINATIONS

NUCLEAR MEDICINE

PAPER-I

Time: 3 Hours
Max. Marks: 100

NM/D/19/24/I

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.	Types of PET detectors: characteristics, advantages and disadvantages. Which one will you select for your department and why?	8+2
2.	What are phantoms? Discuss types of phantoms and their use in Nuclear Medicine.	2+8
3.	a) Attenuation correction in PET-CT. b) Filters used in SPECT.	5+5
4.	Principle, design and uses of intra operative gamma probe.	10
5.	Explain SUV and other quantitative PET parameters. What factors affect them? Which SUV will you routinely use and why?	5+3+2
6.	Transient and secular equilibrium with examples.	5+5
7.	a) Define HVT, TVT, LET, RBE & OER. b) What is PMT? Discuss working and uses of PMT in Nuclear Medicine.	5+5
8.	a) What is Sensitivity, Specificity, PPV and NPV? b) Phases of clinical trials.	5+5
9.	a) DICOM and PACS. b) Auger electron and utility.	5+5
10.	a) Liquid scintillators. b) Quenching.	5+5

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