NUCLEAR MEDICINE

PAPER – II

NUC.MED/APRIL/16/24/II

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. During plasma sample methods of GFR estimation, the sample tube gives count rate of 1000 cts/second. Researcher does not accept error more than 1% in counting. How long each tube should be counted to keep error at 1%? — 10

2. a) HPLC. — 5
   b) Role of nuclear imaging in seizure disorder. — 5

3. During quality check of radiopharmaceuticals two terms are frequently described:
   a) LAL test — 5
   b) $LD_{50/60}$. — 5
   Describe these two tests in details.

4. Derive using MIRD formalism — 10
   D=A S

5. What are the salient features of difference between ^{201}TI SPECT and ^{82}Rb PET imaging? — 10

6. Compare and contrast the two commonly used radio pharmaceutical ^{68}Ga-PSMA and ^{18}F Choline in Castration Resistant Prostate Cancer (CRPC). — 10

7. How radionuclide imaging helps in diagnosing:
   a) Hyperinsulinemic hypoglycemia. — 5+5
   b) Head & neck paragangliomas.

8. Nuclear Medicine techniques in the diagnosis of hepatocellular carcinoma (HCC). — 10

9. How radionuclide imaging helps in the management of: — 5
   a) Solitary pulmonary nodule — 5
   b) Carcinoma cervix

10. Role of PET in the management of Hodgkin's lymphoma. — 10

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