NUCLEAR MEDICINE
PAPER – 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.
- 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%?

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

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

4. Derive using MIRD formalism
   \[ D = A S \]

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

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

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


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