

National Board of Examinations

Question Paper Name :	DNB Nuclear Medicine Paper2
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DNB Nuclear Medicine Paper2

Group Number :	1
Group Id :	3271872560
Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
Edit Attended Group? :	No
Group Marks :	100
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

DNB Nuclear Medicine Paper2

Section Id :	3271872563
Section Number :	1
Section type :	Offline

Mandatory or Optional :	Mandatory
Number of Questions to be attempted :	10
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	3271872567
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 1 Question Id : 32718726053 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Please write your answers in the answer booklet within the allotted pages as follows:-

Question Number	Answer to be attempted within	Question Number	Answer to be attempted within
Q. 1	Page 1-5	Q. 6	Page 26-30
Q. 2	Page 6-10	Q. 7	Page 31-35
Q. 3	Page 11-15	Q. 8	Page 36-40
Q. 4	Page 16-20	Q. 9	Page 41-45
Q. 5	Page 21-25	Q. 10	Page 46-50

1. Discuss the different collimators used in nuclear medicine imaging. How collimation used in SPECT imaging is different from PET imaging? [7+3]

Question Number : 2 Question Id : 32718726054 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

- a) Half value and tenth value layer. [5]
- b) Medical cyclotron. [5]

Question Number : 3 Question Id : 32718726055 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Discuss the various SPECT and PET radiopharmaceuticals used in imaging of prostate cancer with their merits and demerits. [10]

Question Number : 4 Question Id : 32718726056 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

a) Misadministration in nuclear medicine department and different steps undertaken to prevent it. [5]

b) Compare the beta radionuclide and alpha radionuclide for therapy in nuclear medicine. [5]

Question Number : 5 Question Id : 32718726057 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Discuss the various physiochemical tests done for quality control of Tc-99m radiopharmaceuticals. [10]

Question Number : 6 Question Id : 32718726058 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Discuss about the different methods of FDG synthesis and the quality control tests done. [10]

Question Number : 7 Question Id : 32718726059 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 10

- a) Describe the instrument used and the technique of PET-CT guided biopsy. [5]
- b) Diagram and description of each component of TLD. [5]

Question Number : 8 Question Id : 32718726060 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

- a) Discuss about the PET & SPECT radiopharmaceuticals used for movement disorder imaging. [4]
- b) Discuss their mechanism of uptake, relative advantages and disadvantages. [6]

Question Number : 9 Question Id : 32718726061 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Discuss the physiochemical properties, mechanism of uptake, merits and demerits of ^{201}Tl vs $^{99\text{m}}\text{Tc}$ -MIBI in myocardial perfusion imaging. [10]

Question Number : 10 Question Id : 32718726062 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

- a) Metabolic tumor volume (MTV) and total lesional glycolysis (TLG) in FDG PET imaging. [5]
- b) Describe patient preparation and recommended protocol for FDG PET imaging in cardiac sarcoidosis. [5]