

National Board of Examinations

Question Paper Name :	DNB Nuclear Medicine Paper1
Subject Name :	DNB Nuclear Medicine Paper1
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Share Answer Key With Delivery Engine :	No
Actual Answer Key :	No

DNB Nuclear Medicine Paper1

Group Number :	1
Group Id :	3271871493
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 Paper1

Section Id :	3271871496
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 :	3271871500
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 1 Question Id : 32718714122 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. Describe different types of radioactive decay schemes with suitable examples. [10]

Question Number : 2 Question Id : 32718714123 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 interaction of radiation with matter along with diagrams. [10]

Question Number : 3 Question Id : 32718714124 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 10

Describe NEMA. Discuss the quality control of SPECT/CT system. [10]

Question Number : 4 Question Id : 32718714125 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) Partial volume effect. [5]
- b) Beam hardening effect. [5]

Question Number : 5 Question Id : 32718714126 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) Bremsstrahlung radiation. [5]
- b) Decay scheme of Ac-225. [5]

Question Number : 6 Question Id : 32718714127 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 reconstruction algorithms used in SPECT and PET with their merits and demerits. [10]

Question Number : 7 Question Id : 32718714128 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) Specific gamma ray constant. [5]
- b) Attenuation correction in PET/CT. [5]

Question Number : 8 Question Id : 32718714129 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 principle of collimation in nuclear medicine with different collimators in use. How collimation in SPECT imaging is different from PET imaging. [10]

Question Number : 9 Question Id : 32718714130 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) Chi square test. [5]

b) Kaplan Meier survival analysis. [5]

Question Number : 10 Question Id : 32718714131 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 phases of clinical trial. [10]