

National Board of Examinations

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

Group Number :	1
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Edit Attended Group? :	No
Break time :	0
Group Marks :	100

DNB Nuclear Medicine Paper2

Section Id :	3271872769
Section Number :	1
Section type :	Offline
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	10
Section Marks :	100
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	3271872773
Question Shuffling Allowed :	No

Question Number : 1 Question Id : 32718728944 Question Type : SUBJECTIVE Consider As Subjective : Yes

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 in brief the physics of PET-MRI imaging. Describe the production of ^{18}F and ^{13}N . [5+5]

Question Number : 2 Question Id : 32718728945 Question Type : SUBJECTIVE Consider As Subjective : Yes

Correct Marks : 10

- a) 4 quadrant bar phantom. [5]
- b) Carrier free radionuclides with 2 examples. [5]

Question Number : 3 Question Id : 32718728946 Question Type : SUBJECTIVE Consider As Subjective : Yes

Correct Marks : 10

- a) Thyroid uptake probe. [5]
- b) Thermoluminescent dosimeter (TLD). [5]

Question Number : 4 Question Id : 32718728947 Question Type : SUBJECTIVE Consider As Subjective : Yes

Correct Marks : 10

Discuss the physiochemical properties, mechanism of uptake, role, merits and demerits of different PET tracers used in myocardial perfusion imaging. [10]

Question Number : 5 Question Id : 32718728948 Question Type : SUBJECTIVE Consider As Subjective : Yes

Correct Marks : 10

Discuss the various SPECT and PET radiopharmaceuticals used in parathyroid imaging with their mechanism of uptake. [10]

Question Number : 6 Question Id : 32718728949 Question Type : SUBJECTIVE Consider As Subjective : Yes

Correct Marks : 10

- a) Radiotracer agents used in ventilation scan. [5]
- b) $^{99\text{m}}\text{Tc}$ RBC labelling. [5]

Question Number : 7 Question Id : 32718728950 Question Type : SUBJECTIVE Consider As Subjective : Yes

Correct Marks : 10

Discuss the different reconstruction techniques in nuclear medicine imaging. [10]

Question Number : 8 Question Id : 32718728951 Question Type : SUBJECTIVE Consider As Subjective : Yes

Correct Marks : 10

a) Production and radiopharmaceutical chemistry of Gallium-68. [5]

b) Preparation of patients for myocardial viability with cardiac PET imaging. [5]

Question Number : 9 Question Id : 32718728952 Question Type : SUBJECTIVE Consider As Subjective : Yes

Correct Marks : 10

Discuss the radiopharmaceuticals used for brain tumor imaging: mechanism of uptake, relative advantages and disadvantages. [10]

Question Number : 10 Question Id : 32718728953 Question Type : SUBJECTIVE Consider As Subjective : Yes

Correct Marks : 10

Discuss the various radiopharmaceuticals used with their principle of uptake in sentinel lymph node biopsy. [10]