

# National Board of Examinations

<b>Question Paper Name :</b>	DNB Nuclear Medicine Paper2
<b>Subject Name :</b>	DNB Nuclear Medicine Paper2
<b>Creation Date :</b>	2023-04-26 21:36:17
<b>Duration :</b>	180
<b>Share Answer Key With Delivery Engine :</b>	No
<b>Actual Answer Key :</b>	No

## DNB Nuclear Medicine Paper2

<b>Group Number :</b>	1
<b>Group Id :</b>	327187804
<b>Group Maximum Duration :</b>	0
<b>Group Minimum Duration :</b>	180
<b>Show Attended Group? :</b>	No
<b>Edit Attended Group? :</b>	No
<b>Group Marks :</b>	100
<b>Is this Group for Examiner? :</b>	No
<b>Examiner permission :</b>	Cant View
<b>Show Progress Bar? :</b>	No

## DNB Nuclear Medicine Paper2

<b>Section Id :</b>	327187807
<b>Section Number :</b>	1
<b>Section type :</b>	Offline

<b>Mandatory or Optional :</b>	Mandatory
<b>Number of Questions to be attempted :</b>	10
<b>Section Marks :</b>	100
<b>Enable Mark as Answered Mark for Review and Clear Response :</b>	Yes
<b>Maximum Instruction Time :</b>	0
<b>Sub-Section Number :</b>	1
<b>Sub-Section Id :</b>	327187811
<b>Question Shuffling Allowed :</b>	No
<b>Is Section Default? :</b>	null

**Question Number : 1 Question Id : 3271877122 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 10**

1. Describe the methods of production of radionuclides. Describe radionuclide production in nuclear reactor. Define Barn. [4+4+2]

**Question Number : 2 Question Id : 3271877123 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 10**

Define the gas-filled detectors. Describe the mechanism underlying the operation of gas-filled detectors. Add a note on how contamination monitor differs from survey meter. [4+4+2]

**Question Number : 3 Question Id : 3271877124 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 different PET tracers in axial brain tumor imaging. Describe the practice utility of PET

versus contrast enhanced MRI in the disease management. [5+5]

**Question Number : 4 Question Id : 3271877125 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 10**

Enumerate various radiopharmaceuticals used for imaging of functional pancreatic neuroendocrine neoplasms. Describe merits and demerits of each imaging agent. [5+5]

**Question Number : 5 Question Id : 3271877126 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 quality control of  $^{18}\text{F}$ -FDG. [5]
- b) Advantages of solid-state detector over traditional detector in dedicated cardiac imaging. [5]

**Question Number : 6 Question Id : 3271877127 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) BGO versus LSO/LYSO crystal for PET imaging. [5]
- b) 2D PET versus 3D PET - advantage and disadvantages of each acquisition method. [5]

**Question Number : 7 Question Id : 3271877128 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) Iodine-124 methods of production and clinical utility. [5]
- b) Actinium-225 as alpha emitter. [5]

**Question Number : 8 Question Id : 3271877129 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) Germanium-68/Gallium-68 generator system. [5]
- b) Production methods and decay scheme of Lu-177. [5]

**Question Number : 9 Question Id : 3271877130 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 10**

Compare various bone pain palliation radiopharmaceuticals. [10]

**Question Number : 10 Question Id : 3271877131 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) FAPI as theranostic vector. [5]
- b) Labeling of WBCs with FDG for infection imaging. [5]