

National Board of Examinations

Question Paper Name : DNB Nuclear Medicine Paper4
Subject Name : DNB Nuclear Medicine Paper4
Duration : 182
Total Marks : 100
Display Marks: No

Maximum Instruction Time : 0
Is Section Default? : No

Question Number : 1 Question Id : 32718745310 Consider As Subjective : Yes

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. a) PET/CT guided biopsy: patient preparation, indications, procedure, advantages over USG/CT guided biopsy and possible complications. [5]
- b) Pentixfor PET imaging: current status. [5]

Question Number : 2 Question Id : 32718745311 Consider As Subjective : Yes

- a) $^{203}\text{Pb}/^{212}\text{Pb}$ and ^{211}At based Theranostic applications. [5]
- b) TIRADS and its clinical application. [5]

Question Number : 3 Question Id : 32718745312 Consider As Subjective : Yes

- a) Radioactive waste disposal categories and methods [5]
- b) Duties of RSO in Nuclear Medicine departments. [5]

Question Number : 4 Question Id : 32718745313 Consider As Subjective : Yes

- a) Artificial intelligence and machine learning in nuclear medicine imaging. [5]
- b) TOF & Digital PET. [5]

Question Number : 5 Question Id : 32718745314 Consider As Subjective : Yes

Briefly elaborate on the principles and procedure of dosimetry in nuclear medicine radionuclide therapy with focus on patient-specific dose calculation in nuclear medicine. [10]

Question Number : 6 Question Id : 32718745315 Consider As Subjective : Yes

- a) Regulatory guidelines for transportation of radioactive materials in India. [5]
- b) Radioactive spillage and its management in nuclear medicine department. [5]

Question Number : 7 Question Id : 32718745316 Consider As Subjective : Yes

Compare and contrast the TheraP and VISION trials in prostate cancer theranostics with their important inferences. [10]

Question Number : 8 Question Id : 32718745317 Consider As Subjective : Yes

Discuss PET/MRI and Total-body PET/CT: principles, benefits and challenges. [5+5]

Question Number : 9 Question Id : 32718745318 Consider As Subjective : Yes

- a) Radiobiological contrasting points between Alpha, Beta and Auger electrons as therapeutic agents. [5]
- b) Recent ATA guidelines for thyroid cancer, salient changes between 2015 and 2025 ATA guidelines. [5]

Question Number : 10 Question Id : 32718745319 Consider As Subjective : Yes

- a) F-18 DOPA, and its clinical applications. [5]
- b) Pheochromocytoma and paraganglioma imaging with nuclear medicine: recommendations for personalized imaging in different subsets. [5]