

National Board of Examinations

Question Paper Name :	DNB Radiation Oncology Paper4
Subject Name :	DNB Radiation Oncology Paper4
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Actual Answer Key :	No

DNB Radiation Oncology Paper4

Group Number :	1
Group Id :	3271872544
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 Radiation Oncology Paper4

Section Id :	3271872547
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 :	3271872551
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 1 Question Id : 32718725813 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. It is proposed to install a linear accelerator in a Radiotherapy Department equipped with only Cobalt 60 unit:
- What should be the optimum energy of this unit? Give your reasons. [2]
 - What are the QA checks that should be carried out before the machine is introduced for clinical use? [4]
 - What would be the advantages and disadvantages of a very high energy beam say 25 MV/ 50 MV in teletherapy? [4]

Question Number : 2 Question Id : 32718725814 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 and discuss with examples the role of alpha, beta and gamma radiation in Clinical Oncology. [10]

Question Number : 3 Question Id : 32718725815 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) Radiation Bystander Effect. [5]

b) Application of PET CT in Radiotherapy Planning. [5]

Question Number : 4 Question Id : 32718725816 Question Type : SUBJECTIVE Consider As

Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 10

What is Tomotherapy? Discuss its principles and construction? How does it differs from Linac based Arc Therapy? [2+4+4]

Question Number : 5 Question Id : 32718725817 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 fundamentals of Image Guided Brachytherapy and International Recommendations. [10]

Question Number : 6 Question Id : 32718725818 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) Lasers in Oncology. [2]

b) TACE. [4]

c) TARE. [4]

Question Number : 7 Question Id : 32718725819 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 the role of antiangiogenesis agents in cancer treatment. [10]

Question Number : 8 Question Id : 32718725820 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

What are the types of Randomized Controlled Trials? What are the current guidelines for reporting RCT in Radiation Oncology. Describe one RCT as reported in India. [3+3+4]

Question Number : 9 Question Id : 32718725821 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Write notes on Sensitivity, Specificity, Positive Predictive Value and Hazard ratio. Give Examples. [2.5x4]

Question Number : 10 Question Id : 32718725822 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 X knife and Gamma knife. Give 10 characteristics of each. [10]