

National Board of Examinations

Question Paper Name :	DNB Radiation Oncology Paper4
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DNB Radiation Oncology Paper4

Group Number :	1
Group Id :	3271872039
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 :	3271872042
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 :	3271872046
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 1 Question Id : 32718720032 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. a) Role of brachytherapy in soft tissue sarcoma of extremity. [5]
- b) Indications, technique & results of Radiotherapy in a case of soft tissue sarcoma involving thigh. [5]

Question Number : 2 Question Id : 32718720033 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) Enumerate the ways in which you can palliate bone metastasis. [5]
- b) Indications, technique and results of Strontium-89 therapy in bone metastasis. [5]

Question Number : 3 Question Id : 32718720034 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Radiotherapy Planning:

- a) Role of MRI imaging. [5]
- b) Role of PET CT. [5]

Question Number : 4 Question Id : 32718720035 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) Prognostic and predictive markers. [5]
- b) Use of AFP and Beta HCG as prognostic and predictive markers. [5]

Question Number : 5 Question Id : 32718720036 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) What do you understand by radiogenomics? [5]
- b) What is the role of artificial intelligence in radiogenomics for cancers in the era of precision medicine? [5]

Question Number : 6 Question Id : 32718720037 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

Intraluminal brachytherapy for:

- a) Carcinoma esophagus. [5]
- b) Carcinoma lung. [5]

Question Number : 7 Question Id : 32718720038 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) What is alpha beta ratio in radiation biology? [5]
- b) Discuss the concept of biological effective dose. [5]

Question Number : 8 Question Id : 32718720039 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) What is linear energy transfer (LET)? [2]
- b) Write its biological and clinical implications. [4]
- c) Draw a graph showing relation between LET, oxygen enhancement ratio (OER) and relative biological effectiveness (RBE). [4]

Question Number : 9 Question Id : 32718720040 Question Type : SUBJECTIVE Consider As Subjective : Yes Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 10

PSMA PET scan. [10]

Question Number : 10 Question Id : 32718720041 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 differences between gamma knife and X knife. [10]