

## M.D. Examination

## Radiotherapy, Radiology : Branch X

## Paper-I

## (Radio Physics &amp; Applied Basic Sciences)

[Max. Marks : 100]

Date : 02-04-2019, Tuesday]

Time : 3 Hours]

- Instructions :** (1) Figure to the right indicates marks.  
(2) Write legibly and to the point.  
(3) Draw diagrams wherever necessary.

Q. 1. What is LDR , MDR, HDR and PDR brachytherapy and what are their advantages and disadvantages? (20)

Q. 2. Explain the characteristics of electron beams used in radiation therapy. Discuss the energy and technique of total skin electron therapy. (20)

Q. 3. Describe the Anatomy, lymphatic drainage and stage classification of anal and peri anal cancer. (20)

Q. 4. Write shorts notes on (5x4=20)

(a) Hyperthermia

(b) Thermoluminescent dosimeter (TLD badge)

(c) What do you mean by dose build up region, how does it occur and what is its significance in radiotherapy.

(d) Intra operative radiotherapy its physical and clinical requirements.

Q.5. Write Short notes on (5x4=20)

(a) Stochastic effect.

(b) CBCT Imaging

(c) Extreme hypofractionation.

(d) Simulation in radiation planning and what is the difference between conventional CT and CT simulation

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**M.D. Examination**  
**Radiotherapy : Branch X**  
**Paper II**

**(Radio-diagnosis & Medicine, Surgery & Pathology in Relation to Radiology)**

**[Max. Marks : 100]**

**Date : 04-04-2019, Thursday]**

**Time : 3 Hours]**

- Instructions :** (1) Figure to the right indicates marks.  
(2) Write legibly and to the point.  
(3) Draw diagrams wherever necessary.

Q. 1. Village panchayat president request you to conduct women cancer awareness and screening programme in his village. How do you plan the entire programme. (20)

Q.2. What is sentinel node, enumerate sentinel node biopsy sites. What is the significance of doing sentinel lymphnode biopsy. (20)

Q. 3. What is the role of PET-CT in Hodgkins Lymphoma? How has PET-CT modified the management of Hodgkins Lymphoma. (20)

Q. 4. Write briefly on (10x2=20)  
(a) Classify etiological factors of cancer. Discuss the role of viruses in etiology of cancer.  
(b) Role of Radiotherapy in oesophagogastric junctional cancers.

Q. 5. Write short note on (20)  
(a) International prognostic index for Hodgkins Lymphoma.  
(b) Tumor lysis syndrome

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## M.D. Examination

## Radiotherapy : Branch X

## Paper III

## (Radiotherapy)

[Max. Marks : 100]

Date : 08-04-2019, Monday]  
Time : 3 Hours]

- Instructions :** (1) Figure to the right indicates marks.  
(2) Write legibly and to the point.  
(3) Draw diagrams wherever necessary.

1. What is simultaneous integrated boost (SIB)? Discuss SIB in management of carcinoma base of tongue T2N2cM0. (20)
  2. Anatomy and lymphatic of carcinoma rectum. Discuss Pre-operative radiotherapy and chemotherapy in operable locally advanced rectal cancer. (20)
  3. Classify pituitary tumors. Describe role of radiotherapy in management of pituitary tumors. (20)
  4. Discuss about image guided brachytherapy in carcinoma cervix and what are the applicator used in brachytherapy for carcinoma cervix. (20)
  5. Write short notes on (5x4=20)
    - (a) Radiotherapy in management of wilm's tumour.
    - (b) Chloroma
    - (c) Radiotherapy in hepato cellular carcinoma
    - (d) Organ preservation in soft tissue sarcoma.
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Candidate's Seat No : \_\_\_\_\_

M.D. Examination

Radiotherapy : Branch X

Paper IV

(Modern Trends &amp; Recent Advances)

[Max. Marks : 100]

Date : 10-04-2019, Wednesday]

Time : 3 Hours]

- Instructions :** (1) Figure to the right indicates marks.  
(2) Write legibly and to the point.  
(3) Draw diagrams wherever necessary.

1. What is conformal radiotherapy? Discuss tumor motion management issues during radiation therapy. (20)
  2. Discuss factors influencing decision in head and neck cancer management. (20)
  3. Classify risk stratification in carcinoma prostate. Discuss how do you approach 70 years male with cT3bN0 carcinoma prostate. (20)
  4. (a) Neoadjuvant approaches in management of locally advanced carcinoma breast (10x2=20)  
(b) SBRT and immunotherapy (anti-PD-1) combination. (5x4=20)
  5. Write short notes on  
(a) Choroidal melanoma  
(b) Radiation induced lung disease assessment and management.  
(c) Cyberknife  
(d) Clinical relevance of molecular markers glioma
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