MD[ Radiotherapy ]

BF/2015/11

# Basic Sciences and Physics as applied

**to Radiotherapy**

**[Paper-I]**

Time : 3 Hours M.M.: 100

Note: Attempt all questions.

 All questions carry equal marks.

 Illustrate your answer with suitable diagrams.

1. Describe anatomy, etiopathogenesis and lymphatic drainage of carcinoma cervix. [10]

2. Define the structure of tomotherapy. [10]

3. Discuss the role of endobronchial radiotherapy in carcinoma of lung. [10]

4. Discuss in brief interaction of photon with matter & discuss in detail Comptom effect. [10]

5. What is intracavitary radiotherapy? Discuss the difference between intracavitary system used for carcinoma of cervix over the years with emphasis on Manchester System. [10]

6. Describe anatomy & lymphatic drainage of anterior 2/3 of tongue. [10]

7. What is percentage depth dose (PDD) and what are the factors affecting PDD values. [10]

8. Discuss stereotactic radiosurgery in detail. [10]

9. Discuss concept of quality assurance in detail. [10]

10. What is radiation cataractogenesis. [10]

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# Principles and Practice of Radiotherapy

**[Paper-II]**

Time : 3 Hours M.M.: 100

Note: Attempt all questions.

 All questions carry equal marks.

 Illustrate your answer with suitable diagrams.

1. Discuss the management of Neuroblastoma. [10]

2. Discuss the role of post mastectomy radiotherapy in early ca breast with 1-3 positive axillary nodes. [10]

3. Discuss the role of interstitial brachytherapy in ca cervix. [10]

4. Describe the radiotherapy technique in ca nasopharynx. [10]

5. Discuss the contouring guidelines in head & neck cancer in N0 neck. [10]

6. Discuss the management of ca mid-esophagus. [10]

7. Discuss the 2D radiotherapy technique in ca prostate. [10]

8. Discuss the treatment of stage III NSCLC. [10]

9. Discuss the management of stage lc grade 1 ca endometrium. [10]

10. Discuss re irradiation in head and neck cancers. [10]

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# Practice of Radiation therapy & Chemotherapy

**[Paper-III]**

Time : 3 Hours M.M.: 100

Note: Attempt all questions.

 All questions carry equal marks.

 Illustrate your answer with suitable diagrams.

1. Discuss the management of anterior-lateral two third carcinomas tongue T1N0M0 Describe the role of interstitial brachytherapy in this care. [10]

2. Describe various radiotherapy techniques used in the management of a case of carcinoma maxilla. [10]

3. **Write short notes on:-** [10]

 a. Kidney shielding.

 b. S.V.C.O. syndrome.

4. Discuss chemoradiation in NSCC lung stage IIIB. [10]

5. Describe the role of Tumor Markers in the management of various cancers. [10]

6. How will you treat a patient of carcinoma prostate with radical external radiation using IMRT technique? [10]

7. **Write short notes on:-** [10]

a. ABVD regime in Hodgkin’s Lymphomas.

b. Bevacizumab.

8. Discuss the role of chemotherapy in the management of stage III carcinoma ovary. [10]

9. **Write short notes on:-** [10]

a. VMAT.

b. Dynamic MLC.

10. Discuss the management of a post operative case of Glioblastoma Multiforme (G.B.M). [10]

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# Recent advances in Radiotherapy

**[Paper-IV]**

Time : 3 Hours M.M.: 100

Note: Attempt all questions.

 All questions carry equal marks.

 Illustrate your answer with suitable diagrams.

1. Give brief description of principles of PET-CT. Enumerate its role in oncology with special reference to Lymphomas. [10]

2. Describe in brief different methods of APBI. [10]

3. Enumerate sentinel node biopsy sites. Describe significance of it in cancer management. [10]

4. Describe role of intraperitoneal chemotherapy, its biological basis & disorders treated with it. [10]

5. What is Tomotherapy. Describe its principle & components. How does it differs from Linac based arc therapy. [10]

6. Describe the steps involved in treatment planning of image guided radiotherapy.

 [10]

7. Describe role of radiotherapy in oncological emergencies. [10]

8. Describe the following in brief:-

 a. Tele-Radiotherapy Networking. [5]

 b. Nano- Technology in cancer diagnosis and management. [5]

9. Describe cancer gene therapy. [10]

10. Enumerate prognostic and predictive factors in breast cancer. How will you manage a case of high risk. [10]

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