D.M.R.T.

[Diploma in Medical Radiotherapy]

BF/2015/05

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 the mechanism of action of ionsing radiation with matter. Discuss the importance of oxyden in radiotherapy. [10]

2. What is brachytherapy? Give the different classifications of brachytherapy and their indications. [10]

3. Describe the construction of a Telecobalt unit. What are the advantages of megavoltage over kilovoltage? [10]

4. Cell cycles. [10]

5. Percentage depth dose. [10]

6. Maximum Permissible Dose (MPD). [10]

7. Electron beam. [10]

8. Compton effect. [10]

9. a. P.D.D. [5]

b. Wedge fiesar. [5]

10. a. Bolus materials. [5]

b. L.E.T. [5]

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Principle of Radiotherapy including Radiobiology

[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 factors affecting cell survival curve and their importance in radiotherapy. [10]

2. Define TCP and NTCP. Discuss the methods to improve the therapeutic ratio. [10]

3. Discuss the management of Glioma. [10]

4. Discuss the management of anaplastic carcinoma thyroid. [10]

5. Discuss the radiotherapy technique in Ca maxilla. [10]

6. Discuss the role of radiotherapy in early Ca breast. [10]

7. Discuss the role of radiotherapy in Ca gall bladder. [10]

8. How will you treat a case of stage I b Ca cervix? [10]

9. Define in detail the radiotherapy technique in Ca anal canal. [10]

10. Discuss the management of organ confined Ca prostate. [10]

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Clinical Practice of Radiotherapy and cancer 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. Enumerate the tumors of kidney and describe the management of renal cell carcinoma.

2. Discuss the management of stage-II Hodgkin’s lymphoma.

3. Classify chemotherapeutic drugs. Describe the role of chemotherapy in carcinoma of ovary.

4. IORT.

5. Brachytherapy in breast cancer.

6. Retinoblastoma.

7. TBI

8. BCC

9. Adjuvant chemotherapy in clinical practice.

10. Electron therapy.

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