

QP Code:

Reg.No.:.....

**MD Degree Examinations in Radiotherapy
(Model Question Paper)**

Paper I – Radiation Physics, Radiobiology & Other Basic Sciences

Time: 3 hrs

Max marks:100

- *Answer all questions*
- *Draw diagrams wherever necessary*

Essays:

(2x25=50)

1. Describe the shape of the cell survival curve for sparsely and densely ionizing radiations. Mention the various parameters used to describe the shape of the cell survival curve for sparsely ionizing radiations as described in the multi-target model.

Short essays:

(10x5=50)

2. Reoxygenation
3. RBE
4. Population based cancer registry
5. Oncogenes
6. Pathology of Hodgkin's disease
7. Compton effect and its clinical significance
8. Beam directing devices
9. Californium as a brachytherapy source

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Paper II – General Principles & Clinical Practice of Radiotherapy

Time: 3 hrs

Max marks:100

- *Answer all questions*
- *Draw diagrams wherever necessary*

Essays:

(2x25=50)

1. Describe the pathology and staging of carcinoma cervix and discuss in detail the management of carcinoma cervix stage III B.

Short essays:

(10x5=50)

2. Rationale of postoperative radiotherapy
3. Management of brain metastases
4. Principles of palliative radiotherapy
5. Rationale of combining photon beam therapy and electron beam therapy
6. Concomitant boost
7. Radioprotectors
8. High dose rate brachytherapy
9. Avoidance of long term complications in clinical radiotherapy

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Paper III – Clinical Oncology & Cancer Chemotherapy

Time: 3 hrs

Max marks:100

- *Answer all questions*
- *Draw diagrams wherever necessary*

Essays:

(2x25=50)

1. Discuss the different sequences in which chemotherapy is combined with other modalities of treatment.

Short essays:

(10x5=50)

2. SVC syndrome
3. Medulloblastoma
4. Adriamycin
5. Perineal Implants
6. CHOP
7. Chemotherapy of Wilm's tumor
8. Hormone manipulation in carcinoma prostate
9. Bone marrow toxicity following chemotherapy

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Paper IV – Recent Developments in Clinical Oncology

Time: 3 hrs

Max marks:100

- *Answer all questions*
- *Draw diagrams wherever necessary*

Essays:

(2x25=50)

1. Discuss the recent advances in the management of early stage breast cancer with special emphasis on radiation techniques.

Short essays:

(10x5=50)

2. X-knife
3. Cone beam CT
4. Proton beam therapy
5. Targeted therapy
6. GTV, CTV and PTV
7. PET scan
8. PDR brachytherapy
9. DRR
