

MANIPAL UNIVERSITY

MD (RADIOTHERAPY) DEGREE EXAMINATION – APRIL 2009

SUBJECT: PAPER I: BASIC SCIENCES IN RELATION TO RADIOTHERAPY

Wednesday, April 01, 2009

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer ALL the questions.

1. Define therapeutic ratio. Describe the approaches that have been used to enhance the therapeutic ratio in radiation therapy.
(20 marks)
2. Discuss the advantages and disadvantages of preoperative versus postoperative radiation. Describe the optimal time between treatment modalities.
(20 marks)
3. Describe the lymphatic drainage of tongue. What are the acute and late effects following a course of curative radiation therapy to Tongue cancer and how do you manage them?
(20 marks)
4. Write short notes on:
 - 4A. Cervical cancer screening.
 - 4B. Radiation effects on Embryo/Fetus.
 - 4C. Orbital lymphoma.
 - 4D. Cell loss factor.

(10×4 = 40 marks)



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SUBJECT: PAPER II: PHYSICS, NUCLEAR MEDICINE AND STATISTICS

Thursday, April 02, 2009

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✗ Answer ALL the questions.

1. Discuss the management of colorectal cancer with special reference to radiation and chemotherapy.
(20 marks)
2. Describe the lymphatic drainage of anterior 2/3 of tongue and staging of tongue cancer. How do you treat T2N0M0 anterior 2/3 squamous cell carcinoma of tongue?
(20 marks)
3. Describe patient positioning and immobilization devices used in Radiotherapy treatment planning.
(20 marks)
4. Write short notes on:
 - 4A. Vulval cancer.
 - 4B. Post irradiation myelopathy.
 - 4C. High LET radiotherapy.
 - 4D. Linear attenuation coefficient.

(10×4 = 40 marks)



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MD (RADIOTHERAPY) DEGREE EXAMINATION – APRIL 2009

SUBJECT: PAPER III: CLINICAL RADIOTHERAPY AND CANCER CHEMOTHERAPY

Friday, April 03, 2009

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer ALL the questions.

1. Describe the pathological classification, symptoms and staging of bladder tumors.
(20 marks)
2. Discuss the lymphatic drainage of rectum. Describe the staging and management of carcinoma rectum.
(20 marks)
3. Classify testicular tumors and discuss the management of stage 1 Non seminomatous germ cell tumor (NSGCT).
(20 marks)
4. Write short notes on:
 - 4A. Taxanes
 - 4B. Parenteral nutrition
 - 4C. Adrenocortical tumors
 - 4D. Iridium – 192

(10×4 = 40 marks)



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MANIPAL UNIVERSITY

MD (RADIOTHERAPY) DEGREE EXAMINATION – APRIL 2009

SUBJECT: PAPER IV: RECENT ADVANCES IN RADIATION ONCOLOGY

Saturday, April 04, 2009

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

1. What is the role of stereotactic radiosurgery as a therapeutic technique?
(20 marks)

2. Discuss the staging and prognostic factors in Head and Neck cancer and the latest management strategies.
(20 marks)

3. Discuss in detail “Prospective clinical trials”.
(20 marks)

4. Write short notes on:
 - 4A. Radioprotectors
 - 4B. Radiotherapy in benign conditions
 - 4C. Tumor Markers
 - 4D. Apoptosis

(10×4 = 40 marks)

