

Reg. No.

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

MD (RADIOTHERAPY) DEGREE EXAMINATION – JULY 2006

SUBJECT: PAPER I: BASIC SCIENCES IN RELATION TO RADIOTHERAPY

Monday, July 03, 2006

Time: 3 Hrs.

Max. Marks: 100

✍ Answer all the questions.

1. Describe in detail the anatomy of breast. How does the lymphatic drainage occur in breast? Mention the common metastatic sites in breast cancer.
(20 marks)
2. What is time, dose and fractionation in radiotherapy? Describe in detail.
(20 marks)
3. Describe the radiation effect modifiers in detail.
(20 marks)
4. Write short notes on the following:
(10×4 = 40 marks)
 - 4A. Hyperthermia
 - 4B. Stochastic effects of radiation
 - 4C. Lymphatic drainage of tongue
 - 4D. LET

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SUBJECT: PAPER II: PHYSICS, NUCLEAR MEDICINE AND STATISTICS

Tuesday, July 04, 2006

Time: 3 Hrs.

Max. Marks: 100

✍ Answer all the questions.

1. Describe the typical telecobalt unit setup and discuss various safety measures taken in telecobalt construction.
(20 marks)
2. Describe the early and late effects of accidental exposure to radiation.
(20 marks)
3. Discuss the pathology and staging of mediastinal mass lesions. Describe the management of thymoma.
(20 marks)
4. Write short notes on:
 - 4A. Log-Rank test.
 - 4B. Management of skeletal metastases.
 - 4C. Basal cell carcinoma.
 - 4D. Breast cancer management during pregnancy.

(10×4 = 40 marks)

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SUBJECT: PAPER III: CLINICAL RADIOTHERAPY AND CANCER CHEMOTHERAPY

Wednesday, July 05, 2006

Time: 3 Hrs.

Max. Marks: 100

Answer all the questions.

1. Describe the clinical features, staging and management of seminoma testes.
(20 marks)
2. Discuss the various staging systems of carcinoma of cervix with particular reference to advantages and disadvantages of each system. How do you manage stage III carcinoma cervix with reference to recent advances?
(20 marks)
3. Describe the diagnosis, staging and treatment of Chronic Lymphocytic leukemia.
(20 marks)
4. Write short notes on:
 - 4A. Choriocarcinoma
 - 4B. Etoposide
 - 4C. SVC obstruction syndrome
 - 4D. Radiation pneumonitis.

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(10×4 = 40 marks)



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SUBJECT: PAPER IV: RECENT ADVANCES IN RADIATION ONCOLOGY

Thursday, July 06, 2006

Time: 3 Hrs.

Max. Marks: 100

✍ Answer all the questions

1. Discuss the role of cancer screening.
(20 marks)
2. Discuss the principles of organ preservation in Oncology.
(20 marks)
3. Discuss the principles, advantages and application in radiotherapy of:
 - 3A. 3D conformal radiotherapy.
 - 3B. IMRT.(20 marks)
4. Write short notes on:
 - 4A. Oncogenes.
 - 4B. Net working in radiotherapy.
 - 4C. Osteoclastoma.
 - 4D. Malignant melanoma.(10×4 = 40 marks)

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