Rajiv Gandhi University of Health Sciences, Karnataka

M.D. Degree Examination – 07-May-2022

Time: Three Hours **Max. Marks: 100 Marks**

Radiotherapy - PAPER – I (RS-2/RS-3)
Applied Anatomy, Pathology, Radiation Physics, Radio Biology
Q. P. CODE: 7481

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

Answer All The Questions **10 x 10 = 100 Marks**

1. Describe in detail interaction of charged particles with matter. Give one example of their clinical use.
2. Draw a neat diagram of cobalt-60 Teletherapy machine. Name its parts and describe their functions.
3. Describe in detail treatment planning systems in modern radiotherapy.
4. What are the various Fractionation schedules and the radiobiological basis of these fractionation schedules used in External Beam Radiotherapy.
5. What are beam modifying devices? Explain in detail about any two of them.
6. Describe Apoptosis and its relevance in cancer management.
7. Types of dosimetric devices and describe Thermoluminescence dosimeter (TLD).
8. Describe Lymphatic drainage of Breast and role of hypofractionation in carcinoma Breast.
9. Compare and contrast SSD and SAD explain factors affecting PDD.
10. Total Skin Irradiation (TSI)

M.D. Degree Examination – 09-May-2022

Time: Three Hours **Max. Marks: 100 Marks**

RADIOTHERAPY - PAPER- II (RS-2/RS-3)
Principles and Practice of Chemotherapy in Malignant Diseases, Preventive Oncology, Palliative Care
Q. P. CODE: 7482

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

Answer All The Questions **10 x 10 = 100 Marks**

1. Discuss in detail the basis or principles behind multi-modality treatment in cancer.
2. Define pain. Discuss in detail the various causes of pain in a cancer patient and their treatment.
3. Describe the role of targeted therapy in the management of various cancers.
4. Describe the classification of chemotherapy of drugs and explain about aklylating agents.
5. Define cancer screening and importance of cancer screening in various cancers.
6. Role of PEG feeding and chemotherapy protocols in carcinoma.
7. What are Taxanes? Write about paclitaxel.
8. Aromatase inhibitors and role of Metronomic chemotherapy
9. Chemo- radiation.
10. Describe chemotherapy induced nausea and vomiting and its management.

Rajiv Gandhi University of Health Sciences, Karnataka

M.D. Degree Examination – 11-May-2022

Time: Three Hours **Max. Marks: 100 Marks**

RADIOTHERAPY - PAPER- III (RS-2/RS-3)

General Principles of Radiotherapy and Oncology,
Principles and Practice of Radiotherapy of skin, Head & Neck,
Central and Peripheral Nervous System, GI Tract Tumors

Q. P. CODE: 7483

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

Answer All The Questions **10 x 10 = 100 Marks**

1. Classify Maxillary Sinus tumor. Discuss the management of Ca. Maxilla stage T4 N1 M0.
2. Write about the Pathological classification of Parotid tumors. Describe the Radiotherapy techniques in Carcinoma Parotid.
3. a) Field Cancerization b) Prevention and management of Oral mucositis due to Radiotherapy
4. Classification of orbital tumors and role of radiotherapy in orbital tumors.
5. Explain the methods of Palliation of Dysphagia in Carcinoma Esophagus.
6. a) Role of MRI and MRS in Brain tumors b) Adaptive Radiotherapy in Head and Neck carcinoma
7. Explain the management of Glioblastome Multiforme of Right parietal region in 40 years old.
8. a) Radio iodine therapy in Ca. thyroid b) Thymoma
9. Explain the management of carcinoma of Right lateral border of Tongue T2 N0 M0.
10. a) AIDS Related Malignancies b) Craniopharyngioma.

M.D. Degree Examination – 13-May-2022

[Time: 3 Hours] **[Max. Marks: 100]**

RADIOTHERAPY - PAPER- IV (RS-2/RS-3)

Principle and Practice of Radiotherapy of Thoracic Region,
Including Breast, Genito Urinary System, Lymphoreticular System,
Musculo-Skeletal System and Paediatric Tumors

Q. P. CODE: 7484

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

Answer All The Questions **10 X 10 = 100 Marks**

1. Diagnosis, staging and treatment of non-small cell lung cancer stage III.
2. Staging evaluation in non-Hodgkin’s lymphoma.
3. Management of metastatic carcinoma cervix.
4. Describe various radiotherapy fractionation in cancer breast.
5. Evaluation of non seminomatous germ cell tumor.
6. Radiotherapy role in carcinoma endometrium.
7. Adverse effects of mediastinal irradiation.
8. Staging and management of carcinoma ovary.
9. Tumor markers.
10. Molecular targets used in Cancer Breast.

Rajiv Gandhi University of Health Sciences, Karnataka

M.D. Degree Examination – 15-Nov-2022

Time: Three Hours **Max. Marks: 100 Marks**

Radiotherapy - PAPER – I (RS-2/RS-3)
Applied Anatomy, Pathology, Radiation Physics, Radio Biology
Q. P. CODE: 7481

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

Answer All The Questions **10 x 10 = 100 Marks**

1. Explain about 4 'R' s in Radiotherapy.
2. What is 'Brag Peak' and explain about the 'Spread out brag peak'? What are the advantages of proton beam RT over photon beam RT?
3. Explain about the volumes defined by ICRU 58.
4. Short notes on a) Wedges b) MLC.
5. Differences between HDR and LDR Brachytherapy.
6. Enumerate various Radiation Monitoring Devices and write about TLD.
7. Short notes on – a) Integral Dose b) MPD.
8. Explain anatomy and lymphatic drainage of stomach.
9. Hypo fractionation.
10. Short notes on – a) LQ model in RT b) Total body irradiation.

M.D. Degree Examination – 17-Nov-2022

Time: Three Hours **Max. Marks: 100 Marks**

RADIOTHERAPY - PAPER- II (RS-2/RS-3)
Principles and Practice of Chemotherapy in Malignant Diseases, Preventive Oncology, Palliative Care
Q. P. CODE: 7482

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

Answer All The Questions **10 x 10 = 100 Marks**

1. Write a note on targeted molecular therapy in oncology. Give one example with its role along with radiation.
2. Describe in detail about the pathogenesis of bony metastasis, classification of bone secondaries and its management.
3. Describe in detail about role of immunohistochemistry, cytogenetic and flowcytometry in the diagnosis and the management of haematological malignancies.
4. Discuss the rationale in combing irradiation with chemotherapy in clinical oncological practice.
5. Define sensitivity, specificity and predictive value of a cancer screening test. Discuss screening programme for cancer breast.
6. Cancer vaccines.
7. Role of Hormones in cancer treatment.
8. National cancer control programme and present day NPCDCS.
9. VEGF inhibitors and role of Bevacizumabab.
10. What are chemotherapy induced toxicity. Explain in detail cardiotoxicity.

Rajiv Gandhi University of Health Sciences, Karnataka

M.D. Degree Examination – 19-Nov-2022

[Time: 3 Hours] **[Max. Marks: 100]**

RADIOTHERAPY - PAPER- III (RS-2/RS-3)

General Principles of Radiotherapy and Oncology,
Principles and Practice of Radiotherapy of skin, Head & neck,
Central and Peripheral Nervous System, GI Tract Tumors.

Q. P. CODE: 7483

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

Answer All The Questions **10 X 10 = 100 Marks**

1. Write the treatment algorithm for a newly diagnosed squamous cell carcinoma of oesophagus extending from 35-40cm with GE junction at 40cm.
2. Aetiology, signs and symptoms, management of stage 3 Nasopharyngeal carcinoma. Role in IMRT in Nasopharyngeal carcinoma.
3. Describe in detail the aetiology, pathology, clinical features, imaging and multimodality treatment of carcinoma anal canal.
4. Describe the management of differential Thyroid cancer and anaplastic thyroid cancer.
5. Describe the indications of radiotherapy in parotid malignancies and explain the technique with suitable diagram.
6. Mycosis Fungoides
7. Neoadjuvant therapy for carcinoma of the rectum.
8. Technique of radiotherapy for Craniopharyngioma.
9. LENT-SOMA scale in Head and Neck Radiotherapy.
10. Adaptive radiotherapy in Head and Neck cancers.

M.D. Degree Examination – 21-Nov-2022

[Time: 3 Hours] **[Max. Marks: 100]**

RADIOTHERAPY - PAPER- IV (RS-2/RS-3)

Principle and Practice of Radiotherapy of Thoracic Region,
Including Breast, Genito Urinary System, Lymphoreticular System,
Musculo-Skeletal System and Paediatric Tumors

Q. P. CODE: 7484

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

Answer All The Questions **10 X 10 = 100 Marks**

1. What are the indications of postoperative radiotherapy in soft tissue sarcoma and describe in detail postoperative radiotherapy techniques in a patient with soft tissue sarcoma of the Thigh.
2. Give an account of developments in Brachytherapy of carcinoma of cervix and their salient features. Add notes on radio biological basis of each them.
3. Molecular classification of medulloblastoma. How do you risk stratify medulloblastoma and explain its importance in management? Explain with suitable diagram the radiation therapy.
4. Describe the management of Triple Negative Breast cancer.
5. Define SBRT (Stereotactic Body Radiotherapy). List the indications. Discuss the role of SBRT in lung cancer.
6. Outline management of Hodgkin’s lymphoma. Explain Mantle Field technique.
7. What are never imaging modalities in oncology? Role of PET-CT scan in Lymphomas.
8. Post-operative radiotherapy in Endometrial cancer.
9. Management of cancer Vulva stage II.
10. Describe acute leukemias and Role of RT in Acute lymphoblastic Leukemia.