Rajiv Gandhi University of Health Sciences, Karnataka

III year B.Sc. Radiotherapy Technology Examination – MARCH 2018

Time: Three Hours **Max. Marks: 60 Marks**

RADIOTHERAPY PART –II – A
Radiation physics (RS -2)
Q.P. CODE: 2915

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

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Describe in detail the process of CT simulation for 3D conformal radiotherapy. Write about the mould room technique used in patient positioning for 3DCRT of carcinoma breast left.
2. Discuss the interactions of X-rays with matter.
3. Discuss in detail the biological effects of radiation.

SHORT ESSAYS (Answer any Five) **5 x 5 = 25 Marks**

4. Radiation safety principles to be followed during HDR Brachytherapy
5. Describe the construction of shielding block in radiotherapy treatment planning.
6. Advantages of LINAC over CO60 teletherapy in radiotherapy planning
7. TLD
8. Half value thickness
9. Strontium 90
10. MLC

SHORT ANSWERS (Answer any Five) **5 x 3 = 15 Marks**

11. Hypothermia
12. DRR image
13. IORT
14. Doubling time
15. SPECT
16. SRS
17. Stochastic and deterministic effects

Rajiv Gandhi University of Health Sciences, Karnataka

III year B.Sc. Radiotherapy Technology Examination – MARCH 2018

Time: Three Hours **Max. Marks: 60 Marks**

Principles & Practice of radiotherapy (RS2)

Q.P. CODE: 2916

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

Section – A

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Describe the role of technologist in IMRT treatment technique in carcinoma prostate.
2. Discuss the pathology and management of breast cancer.

SHORT ESSAYS (Answer any Two) **2 x 5 = 10 Marks**

3. Wedges
4. Radiotherapy simulation
5. Techniques of TBI

SHORT ANSWERS (Answer any Five) **5 x 2 = 10 Marks**

6. ALARA
7. Radiotherapy for Benign tumours
8. CHART in H and N cancers
9. Iridium 192
10. Immobilization devices
11. Difference between SSD and SAD techniques

Section – B

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

12. Describe the radiotherapy fractionation schedules and rationale. What are the schedules used in teletherapy and brachytherapy of Cervix cancer.
13. Describe the emergencies in oncology and write a note on radiotherapy management.

SHORT ESSAYS (Answer any Two) **2 x 5 = 10 Marks**

14. Brachytherapy
15. Cranial prophylaxis
16. Hospice

SHORT ANSWERS (Answer any Five) **5 x 2 = 10 Marks**

17. Self help groups
18. Belmont report
19. Gamma knife
20. Oxygen effect
21. Precancerous lesions
22. Dynamic wedges

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Rajiv Gandhi University of Health Sciences, Karnataka

III year B.Sc. Radiotherapy Technology Examination – SEP-2018

Time: Three Hours **Max. Marks: 60 Marks**

RADIOTHERAPY PART –II – A
Radiation physics (RS -2)
Q.P. CODE: 2915

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

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Explain the free air ionization chamber and thimble chamber. Difference between the two.
2. What are the types of brachytherapy available for clinical use? Mention the different sources used in them.
3. Explain the beam defining, beam modifying and beam directional devices used in RT.

SHORT ESSAYS (Answer any Five) **5 x 5 = 25 Marks**

4. Write in brief about remote and manual afterloading brachytherapy.
5. Why are monitoring units used in linac instead of timer as in telecobalt?
6. Write briefly about emergency handling in a telecobalt setup.
7. What are the daily QA procedures to be performed on a teletherapy machine?
8. Write a note on IGRT.
9. Define ICRU target volumes and their significance in treatment planning.
10. Discuss steps taken to minimize radiation exposure to public and radiation workers in a RT department.

SHORT ANSWERS (Answer any Five) **5 x 3 = 15 Marks**

11. TLD badge
12. Use factor and occupancy factor and workload
13. Frick dosimeter
14. Types of wedges
15. HVL and its measurement
16. Isodose curves
17. Types of survey meters

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III year B.Sc. Radiotherapy Technology Examination – SEP-2018

Time: Three Hours **Max. Marks: 60 Marks**

Principles & Practice of radiotherapy (RS2)

Q.P. CODE: 2916

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

Section – A

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Role of RT and its techniques in early stage Hodgkins disease
2. Discuss the management of breast cancer.

SHORT ESSAYS (Answer any Two) **2 x 5 = 10 Marks**

3. Brachytherapy of Cancer Cervix
4. Radiation monitoring instruments
5. Patient care during and after RT of Cancer Cervix

SHORT ANSWERS (Answer any Five) **5 x 2 = 10 Marks**

6. Port films
7. Isocentre verification techniques
8. Difference between SSD and SAD techniques
9. CT simulator
10. Radiation sensitizers
11. ILBT

Section – B

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

12. Describe the psychosocial problems of a cancer patient and the role of counselling skills in cancer care, mention on quality of life and end care management.
13. Explain palliative care of a adult cancer patient and importance of cancer planning and follow up.

SHORT ESSAYS (Answer any Two) **2 x 5 = 10 Marks**

14. Cyberknife
15. Steps involved in formulation of research study
16. IGRT

SHORT ANSWERS (Answer any Five) **5 x 2 = 10 Marks**

17. Complementary therapies
18. Keeping patient diagnosis in confidentiality
19. QALY
20. The declaration of Geneva
21. OER
22. SRS and SRT

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