Rajiv Gandhi University of Health Sciences, Karnataka

III year B.Sc. Radiotherapy Technology Examination – Sep 2012

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 about the beam defining, beam modifying and beam directing devices used in radiotherapy
2. Describe the principle and functioning of a linear accelerator with a neat diagram
3. Explain the importance of patient immobilization and how it is achieved. Write about the different methods by which patient positioning can be verified

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

4. Briefly explain the manual and remote after loading brachytherapy techniques
5. Briefly write about SRS and SRT treatment techniques
6. Briefly write the principle and working of electronic portal imaging device and its importance in radiotherapy
7. What are the different factors involved in treatment time calculations for SSD and SAD techniques
8. Write a brief note on total body irradiation
9. How can you minimize radiation exposure to public and radiation worker in a raditotherapy department
10. What is meant by stochastic and non – stochastic effect

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

11. HVL and TVL
12. Therminoic emission
13. Dynamic wedge
14. Isodose curve
15. Electron cone
16. ALARA
17. Dose limits

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PRINICPLES & PRACTICE OF RDIOTHERAPY

(RS -2)

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. Discuss the role of radiotherapy & its techniques in early stage Hodgkins disease
2. Describe the different methods of beam localization in radiotherapy indicating their relative advantages.

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

3. Radiation monitoring instruments
4. MLC
5. Linear quadratic equation

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

6. Iridium 192
7. Thermoplastic Device
8. Sublethal damage
9. Prostate Implant
10. Radiation sensitizers
11. PET

Section – B

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

1. Describe the basic principles of supportive care & quality of life in cancer patients. Add a note on counseling patients undergoing radiotherapy
2. Describe emergencies in oncology and their management with radiotherapy

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

3. Informed consent
4. Cancer pain & WHO pain ladder
5. Cranial prophylaxis

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

6. Morphine
7. QALY
8. Belmont Report
9. The declaration of Geneva
10. Gross Tumor volume
11. Gamma knife

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