Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Radiotherapy Technology Degree Examination – MARCH 2018

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

RADIOTHERAPY (Part– I – A)

FUNDAMENTAL OF PHYSICS (RS - 2)

Q.P. CODE: 1356

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. Discuss the various types of interactions between X-rays and Matter.
2. Discuss the various modes of Radioactive Decay.
3. Describe the principles of Semiconductor. Explain the Full Wave Rectifier with Circuit diagram.

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

4. Principles of the Nuclear Reactor
5. Fluorescence and Phosphorescence
6. Thermionic Emission
7. Mutual Induction and Self Induction
8. Electron Capture
9. Relationship between KERMA, Exposure and Absorbed Dose
10. Inverse Square Law

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

11. Roentgen
12. Activity and Half-life
13. Nuclear Fission
14. Bremsstrahlung
15. Magnetron
16. Half value layer
17. Radiographic Films

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II Year B.Sc. Radiotherapy Technology Degree Examination – MARCH 2018

Time: 3 Hours **Max. Marks: 30 Marks**

Radiation Biology, Applied Anatomy and Pathology

Q.P. Code: 1357

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

(Note: Both QP Codes 1357 and 1358 are to be answered within total duration of 3 hours)

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

1. Describe in detail on Chromosomal aberrations.
2. Explain time, dose and fractionation.

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

3. Oxygen and Re-oxygenation effect
4. Linear energy transfer and relative biologic effectiveness
5. Different phases of cell cycle

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

6. Radiolysis of water
7. Radio sensitizer
8. Effect of embryo and fetus
9. Lung cancers
10. Effective and equivalent dose
11. Staging and grading systems

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Radiotherapy Technology Degree Examination – MARCH 2018

Time: 3 Hours **Max. Marks: 30 Marks**

Principles of Radiotherapy

Q.P. Code : 1358

our answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary
(Note : Both QP Codes 1357 and 1358 are to be answered within total duration of 3 hours)

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

1. What is Altered fractionation? Describe the basis of fractionation, the different types of fractionation regimes and its clinical application.
2. Discuss carcinogenesis in detail.

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

3. What is adjuvant chemotherapy? Enumerate the conditions in which this treatment is given.
4. Discuss patient care during and after Radiotherapy of Ca Cervix.
5. Outline the interaction of Radiation with matter.

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

6. Reoxygenation
7. Radical treatment
8. IMRT
9. Oral care during Head & Neck Radiotherapy
10. Brachytherapy
11. Heredity and Cancer

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II Year B.Sc. Radiotherapy Technology Degree Examination – MARCH 2018

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

RADIOTHERAPY (Part– I – A)

FUNDAMENTAL OF PHYSICS (RS - 2)

Q.P. CODE: 1356

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. Discuss the various types of interactions between X-rays and Matter.
2. Discuss the various modes of Radioactive Decay.
3. Describe the principles of Semiconductor. Explain the Full Wave Rectifier with Circuit diagram.

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

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5. Fluorescence and Phosphorescence
6. Thermionic Emission
7. Mutual Induction and Self Induction
8. Electron Capture
9. Relationship between KERMA, Exposure and Absorbed Dose
10. Inverse Square Law

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

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12. Activity and Half-life
13. Nuclear Fission
14. Bremsstrahlung
15. Magnetron
16. Half value layer
17. Radiographic Films

*****

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Radiotherapy Technology Degree Examination – MARCH 2018

Time: 3 Hours **Max. Marks: 30 Marks**

Radiation Biology, Applied Anatomy and Pathology

Q.P. Code: 1357

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

(Note: Both QP Codes 1357 and 1358 are to be answered within total duration of 3 hours)

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

1. Describe in detail on Chromosomal aberrations.
2. Explain time, dose and fractionation.

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

3. Oxygen and Re-oxygenation effect
4. Linear energy transfer and relative biologic effectiveness
5. Different phases of cell cycle

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

6. Radiolysis of water
7. Radio sensitizer
8. Effect of embryo and fetus
9. Lung cancers
10. Effective and equivalent dose
11. Staging and grading systems

*****

II Year B.Sc. Radiotherapy Technology Degree Examination – MARCH 2018

Time: 3 Hours **Max. Marks: 30 Marks**

Principles of Radiotherapy

Q.P. Code : 1358

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

(Note : Both QP Codes 1357 and 1358 are to be answered within total duration of 3 hours)

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

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