2207_2009_I_S43

Rajiv Gandhi University of Health Sciences, Karnataka

Third year B.Sc. Radiography Degree Examination – Feb - 2010

Time: Three Hours **Max. Marks: 80 Marks**

PHYSICS OF RADIOTHERAPY AND EQUIPMENT

Q.P. CODE: 2207

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 the working and principles of a simulator, tumor localization and verification
2. Describe production of X-rays and Gamma rays are used for therapeutic purposes and the basic principles of mega voltage machines
3. What are sealed sources and what are the differences between sealed and unsealed sources? Write briefly on the properties of 5 sealed sources used for therapeutic purposes

SHORT ESSAYS **8 x 5 = 40 Marks**

4. Personnel-monitoring methods
5. Collimation and flattening filter
6. Penumbra effect
7. Coherent scattering
8. Radiation protection
9. Compensators
10. Factors affecting percentage depth dose
11. Beam directional devices

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SHORT ANSWERS **10 x 2 = 20 Marks**

12. Photoelectric effect
13. Treatment time calculation
14. Scintillation counters
15. Half value layer
16. Thermo luminescent dosimeters
17. Bolus material
18. Radioactivity
19. Film badges
20. Electrons
21. Beta-ray application

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2208_2009_1_S42

Rajiv Gandhi University of Health Sciences, Karnataka

Third year B.Sc. Radiography Degree Examination – Feb - 2010

Time: Three Hours **Max. Marks: 80 Marks**

RADIOTHERAPY, ONCOLOGY & TECHNIQUES
(Revised Scheme)

Q.P. CODE: 2208

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 radiobiological basis of fractionation in radiotherapy. Add a note on accelerated fractionation and hyperfractionation in treatment of head and neck cancers
2. Discuss the staging and radiotherapeutic management of carcinoma cervix
3. Describe patient positioning and immobilization devices used in radiotherapy

SHORT ESSAYS (Answer any Eight) **8 x 5 = 40 Marks**

4. Percentage depth dose
5. Shrinking field technique
6. Total body irradiation
7. TLD
8. XYZ method of isocenter setup
9. Medulloblastoma
10. Mammography
11. Iridium-192
12. Radiotherapy for benign conditions
13. Mantle field technique

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SHORT ANSWERS **10 x 2 = 20 Marks**

14. Oxygen effect
15. Intensity modulated radiotherapy
16. SAD technique
17. Radiosensitizers
18. LQ model
19. Advantages of HDR over LDR brachytherapy
20. IMC field planning in carcinoma breast
21. Late effects of radiation in head and neck cancers
22. Half value layer
23. Radiotherapy management of bone metastases

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2210_2009_1_S106

Rajiv Gandhi University of Health Sciences, Karnataka

Third year B.Sc. Radiography Degree Examination – Feb - 2010

Time: Three Hours **Max. Marks: 80 Marks**

RADIOGRAPHIC TECHNIQUES – II

Q.P. CODE: 2210

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 all about Hystero – salphinogography (HSG)
2. Define various barium studies of GIT studies with respect to
   a) Role of radiographer b) Technique / protection / views and sequential timing of radiograph c) Preparation of barium contrast d) Role of fluoroscopic evaluation (IITV)
3. What is DSA? Describe in detail

SHORT ESSAYS (Answer any Eight) **8 x 5 = 40 Marks**

4. Seldinger technique
5. ERCP
6. Orbital venography
7. Cisternography
8. Excretion urography
9. Small bowel enema
10. Xero radiography
11. Mammography
12. Translumbar Aortography
13. PTC

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SHORT ANSWERS **10 x 2 = 20 Marks**

14. Catheters
15. Emergency drugs in radiology department
16. Asepsis
17. Lithotripsy
18. Angiography
19. Duplication radiography
20. Faraday's law
21. Peripheral venography of lower limbs
22. Ten day rule
23. High KV technique

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