Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Imaging Technology Degree Examination – 29-Dec-2020

Time: 3 Hours | Max. Marks: 40 Marks

Physics of Radiology

Q.P. Code: 1353

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1353 and 1354 are to be answered within total duration of 3 hours)

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

1. Explain with a neat diagram the construction and working of stationary anode x-ray tube and write a note on grid controlled x-ray tube.
2. Explain attenuation and its types. What are the factors affecting it and the relationship between them.

SHORT ESSAYS (Answer any Three) 3 x 5 = 15 Marks

3. Describe theory's based on atomic structures.
4. Describe capacitance and capacitors.
5. Explain self and mutual induction.
6. Radiation units

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

7. Luminescence
8. Half value layer
9. Photoelectric effect
10. K-shell electron capture
11. Radioactivity
12. Shock proofing

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II Year B.Sc. Imaging Technology Degree Examination – 29-Dec-2020

Time: 3 Hours | Max. Marks: 40 Marks

Radiation Physics and Medical Physics

(Revised Scheme-3)

Q.P. Code: 1354

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1353 and 1354 are to be answered within total duration of 3 hours)

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

1. Give brief account of Quality Assurance tests done in X-ray equipment.
2. Construction and working of rotating anode X-ray tube and its cooling.

SHORT ESSAYS (Answer any Three) 3 x 5 = 15 Marks

3. Biological effects of radiation.
4. Characteristic X-rays.
5. Electronic timer.
6. Photo electric effect.

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

7. Low Tension transformer.
8. Earthing of x-ray machine.
9. Conductors and insulators.
10. Effective dose and equivalent dose.
11. Grids.
12. Penumbra.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Imaging Technology Degree Examination – 05-Jan-2021

Time: Three Hours Max. Marks: 60 Ma

Radiographic Photography and Image Processing (RS - 2)

Q.P. CODE: 1355

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 in detail about daylight film handling system.
2. Discuss in detail about Duplication of Radiograph.
3. Describe in detail working principle of Computed Radiography & Advantages and Disadvantages of it.

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

4. Briefly describe production of photographic emulsion.
5. Construction of intensifying screen with neat diagram
6. Discuss about Vacuum and Formatter cassette with neat diagram.
7. Care and Maintenance of automatic processor
8. Describe in detail Composite type of daylight film-handling System.
9. What is fog? Discuss in detail different Types of fog.
10. Density and opacity of the radiographic film.

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

11. Advantages of PQ Developer
12. Quantum Mottle
13. Advantages of using Auto mixers
14. When should safelight tests be carried out?
15. Resolution
16. What is the purpose of replenishment in film processing?
17. Spectral sensitivity

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