Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Radiography Degree Examination – April-2019

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

Radiation Physics & Medical Physics

Q.P. CODE: 2204

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. What is fluoroscopy? Explain in detail the components involved in fluoroscopy and image intensifiers.
2. Explain in detail about radiation protection in the radiography department with respect to staff, patient and public.
3. Discuss in detail regarding design of X-ray tubes. Add a note on rating charts.

SHORT ESSAYS (Answer any Ten) **10 x 5 = 50 Marks**

4. Mammography
5. Care and maintenance of X-ray equipment
6. Exposure timers
7. Earthing
8. Mobile x-ray equipment
9. Biological effects of X-rays
10. Gas filled detectors
11. Calibration of x-ray machine
12. Fuses and switches
13. Cranial and dental radiographic equipment
14. Star and Delta connection
15. High tension cable

SHORT ANSWERS **5 x 2 = 10 Marks**

16. Grids
17. Beam centring devices
18. Thermoluminescent dosimeters
19. Cine fluorography
20. GM counter

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RAJIV GANDHI UNIVERSITY OF HEALTH SCIENCES

II Year B.Sc Radiography Degree Examination OCT-2019

Time: 3 Hours Max.Marks:80

BASIC RADIATION PHYSICS

Q.P.CODE:2204

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAYS (Answer any two) **2X10=20 Marks**

1. Write in detail about the construction and working of a rotating anode x-ray tube.

(10)

2. Explain the principle, construction and operation of a High Tension transformer. (10)

3. Describe the three important methods by which x-rays and gamma rays interact with the medium. (10)

SHORT ESSAYs (Answer any Ten) **6X5=50 Marks**

4. What are the important properties of x-rays.

5. What is the principle of operation of a low tension transformer.

6. What is meant by stochastic and non-stochastic effect and give examples.

7. What is meant by Maximum Permissible Dose and mention the dose limits for radiation workers and public?

8. How fluoroscopic Rating charts are useful.

9. Briefly write about characteristics of grids.

10. Write about the principle of operation of full wave rectifier circuit.

11. Briefly write about the principle of operation of a image intensifier tube.

12. How the tube current is controlled in an x-ray circuit.

14. Write about the principle and operation of a TLD badge.

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