

**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.

15. How radiation and optical field alignment is checked in the x-ray unit.

**SHORT ANSWERS**

**5X2=10**

16. Half life

17. Rectifiers

18. Atomic number

19. Use factor

20. Heel effect

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