

**Rajiv Gandhi University of Health Sciences, Karnataka**  
**Second Year B.Sc. Medical Imaging Technology Degree Examination – 29-May-2024**

**Time: Three Hours**

**Max. Marks: 100 Marks**

**Radiation Physics: Medical Physics and  
Radiation Safety in Radio Diagnosis (RS-4)**  
**Q.P. CODE: 3290**

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

**LONG ESSAYS (Second Question Choice)**

**2 x 10 = 20 Marks**

1. Discuss in detail about construction of digital fluoroscopy
2. Write a note on structural shielding design in diagnostic radiology

**OR**

Describe in detail about the components in x-ray generator with neat diagram

**SHORT ESSAYS (Question No 5 & 10 choice)**

**10 x 5 = 50 Marks**

3. Line focus principle.
4. Rectifiers.
5. HT Generators.

**OR**

Image intensification.

6. Ionization chamber.
7. Biological effects.
8. Air gap techniques.
9. Losses of transformer.
10. Space charge compensation.

**OR**

Anode heel effect.

11. Radioactive decays.
12. Switches and circuit breakers.

**SHORT ANSWER**

**10 x 3 = 30 Marks**

13. Fuses.
14. Half value layer.
15. Properties of x- rays.
16. Diodes.
17. Filament transformer.
18. ALARA.
19. Anodes.
20. Tenday rule.
21. Collimators.
22. Define roentgen and rad.

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