

Rajiv Gandhi University of Health Sciences, Karnataka
II Year B.Sc. Medical Imaging Technology Degree Examination – 21-Nov-2024

Time: Three Hours

Max. Marks: 100 Marks

RADIATION PHYSICS
Medical Physics & 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. Explain interactions of x-ray with matter and its application in radiology
2. Write in detail about image intensifier. Add a note on the factors affecting the performance of the image intensifier

OR

Explain in detail about radiation signages with appropriate diagrams

SHORT ESSAYS (Question No 5 & 10 choice)

10 x 5 = 50 Marks

3. List the types of circuit breaker and explain magnetic circuit breaker
4. Main voltage compensation
5. Mention in detail about distribution of electrical energy

OR

Explain in detail about stabilizer used in x-ray

6. Design and working of full wave rectifier
7. Capacitor discharge generator
8. ICRP regulation
9. List the radiation measuring instruments and explain in detail about Ionization chamber
10. Radiation protection in Mammography

OR

Discuss about Genetic effect of radiation

11. Write a note on film badge
12. Radiation protection and handling of pregnant patients

SHORT ANSWER

10 x 3 = 30 Marks

13. Maximum permissible dose
14. Deterministic and stochastic effect
15. High tension switch
16. Air gap technique
17. High tension cable
18. Autotransformer
19. Define law of radioactive disintegration and half life period
20. Multifield image intensifier
21. Cinefluorography for recording the fluoroscopic image
22. Anode heel effect
