

**Second Year B.Sc Radio Therapy Technology Degree Regular
Examinations November 2025**

Paper VI Radiation physics I

(2023 Scheme)

Time: 3 Hours

Total Marks: 100

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Essays:

(2x15=30)

1. Explain the principle of Computerised Tomography and the different generations of CT. Describe the Special features of X-ray generators and detectors used in CT.
2. Describe the structure of X-ray film and explain film processing

Short notes:

(8x5=40)

3. Free Air Ionization Chamber
4. Types of Grids in diagnostic X-ray units
5. Compare diagnostic X-ray tubes and therapy X-ray tubes
6. Intensifying screen
7. Digital Subtraction Angiography
8. What is photoelectric effect and describe the applications in diagnostic radiology
9. Luminescence and its uses
10. Inherent and added filtration

Answer briefly:

(10x3=30)

11. Electronic equilibrium
12. Half value layer
13. Line focus principle
14. He-Ne Laser
15. Equivalent and Effective dose
16. Bragg peak
17. Larmor frequency
18. Rating charts
19. X ray spectrum
20. Half wave rectifier