

MNJ INSTITUTE OF ONCOLOGY AND REGIONAL CANCER CENTRE

DEPARTMENT OF RADIATION ONCOLOGY

INTERNAL EXAMINATIONS

2023 batch

TIME: 3 Hours

MAX MARKS: 100

Note: Answer All Questions

Give diagrammatic representation whenever necessary.

(25-07-2026)

Write a short essay on the following: 10 X10 = 100

- 1) Discuss in detail the DNA strand breaks, Chromosomal aberrations & Mechanisms of DNA repair?
- 2) Describe in detail Cell survival curves?
- 3) Discuss in detail about Acute Radiation syndromes?
- 4) What are the 7'R's of Radiobiology, write its mechanisms in detail?
- 5) What is LET, RBE, OER, EQD2 & BED? (2*5)
- 6) Describe in detail the Interactions of Photons with matter?
- 7) Describe the different components of a linear accelerator along with a neat labelled diagram?
- 8) Define PDD (along with suitable diagrams)? What are the different factors affecting PDD?
- 9) Describe in detail Beam Modifying Devices?
- 10) Describe the characteristics of electron beam along with its clinical implications?