

B.Sc. RADIOTHERAPY TECHNOLOGY

FIRST YEAR

PAPER III – RADIOTHERAPY PHYSICS AND PRINCIPLES OF RADIOTHERAPY

Q.P. Code: 801908

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Explain the construction and working principle of telecobalt machine.
2. Explain the mode of interaction of particle radiation.
3. Give a detailed discussion on IGRT.

II. Write notes on: **(8 x 5 = 40)**

1. Radioactive equilibrium.
2. Artificially Produced Radioisotopes.
3. Laws of Radioactivity.
4. Radiotherapy simulator.
5. Factors that influence Tissue Maximum Ratio.
6. Microwave generators used Linear Accelerator.
7. Conformal Radiotherapy.
8. Electronic Equilibrium.

III. Short answers on: **(10 x 3 = 30)**

1. Secondary electrons.
2. Relative Biological Effectiveness.
3. Tissue compensators.
4. What is a beam directional device? Give an example.
5. Radioisotopes.
6. Back Scatter Factor.
7. Percentage Depth Dose.
8. Gamma Knife.
9. Physical characteristics of electron beam.
10. Stopping Power Ratio.
