

B.Sc. RADIOTHERAPY TECHNOLOGY
SECOND YEAR

**PAPER II – RADIOTHERAPY EQUIPMENTS, APPLICATIONS &
MAINTENANCE**

Q.P. Code: 801932

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. Discuss about some radioactive sources, their physical characteristics used in Brachytherapy.
2. List out the various acceptance testing for tele-cobalt machines and explain them.
3. Explain the orthogonal simulation procedure for an intracavitary brachytherapy application.

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

1. Write the difference between Magnetron and Klystron.
2. Characteristics of a clinical electron beam.
3. Wedge filters.
4. Isodose chart.
5. Cyclotron.
6. Explain autoradiography.
7. Characteristics of photon beams.
8. Simulators and its uses.

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

1. Define Air Kerma strength.
2. What is meant by dynamic wedge?
3. What is contact therapy?
4. Peak scatter factor.
5. Percentage depth dose.
6. Calculate the equivalent square field for $8 \times 16 \text{ cm}^2$.
7. Clinical target volume.
8. Transmission penumbra.
9. Measurement of entry and exit dose.
10. Bolus.
