[LJ 0816] AUGUST 2016 **Sub.Code :1932**

B.Sc. RADIOTHERAPHY TECHNOLOGY
(New Syllabus 2014-2015)

SECOND YEAR

PAPER II – RADIOTHERAPY EQUIPMENTS, APPLICATIONS AND MAINTENANCE

Q.P. Code: 801932

Time: Three Hours **Maximum : 100 Marks**

Answer All Questions

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

1. Explain in detail the physical components of a tele-Cobalt unit.
2. Explain in detail about wedges, types and their uses with suitable diagram.
3. Discuss about some radioactive sources, their physical characteristics used in brachytherapy,

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

1. Write about Gamma Knife unit.
2. Write about the merits and de-merits of tele cobalt unit and linear accelerator.
3. Write the process of CT simulation.
4. Tissue compensators.
5. Explain with diagram the pin and arc technique.
6. Write about orthogonal simulation procedure for intracavitory Brachytherapy.
7. Define Percentage Depth Dose. Explain the different parameters in a PDD curve with a neat diagram.
8. Write the differences between Magnetron and Klystron.

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

1. Define Off Axis Ratio.
2. Define Isocentric technique.
3. Draw the decay scheme of Cs-137.
4. What is meant by dynamic Wedge?
5. Draw a diagram of a linear accelerator head in electron mode.
6. What is collimator scatter factor?
7. Define Air Kerma Strength.
8. What is Skin Sparring effect?
9. Bolus materials and their uses.
10. Transmission Penumbra.

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