[LL 0817] AUGUST 2017 **Sub. Code: 1932**

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. Explain the methods to correct for contour irregularities.
2. List out the various acceptance testing for tele-cobalt machines and explain them.
3. Explain brachytherapy and its classification based on dose rate.

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

1. Explain BARC Cs-137 Kit.
2. Write about Vande Graff Generator.
3. Write about the light and radiation field congruence test.
4. Write notes on Phantoms.
5. Write about the physical characteristics of Cs-137 brachytherapy source.
6. Explain percentage depth dose.
7. Write about the mechanical QA checks in tele-Cobalt machine.
8. Microtron.

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

1. What is wedge angle and write the relationship between wedge angle and hinge angel?
2. Collimator Scatter Factor.
3. Skin sparring effect.
4. Corrections for tissue inhomogeneties.
5. Isocentre.
6. Scatter air ratio.
7. Calculate the equivalent square field for 25 x 10 cm^2.
8. What is the difference between LDR, MDR and HDR brachytherapy?
9. Gross Tumor Volume (GTV).
10. Bolus and its uses.

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