

B.Sc. RADIOTHERAPY TECHNOLOGY
(New Syllabus 2014-2015)
SECOND YEAR
PAPER III – RADIOTHERAPY TECHNIQUES

Q.P. Code: 801933

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. Describe the indications, technique, dose and complications of radiotherapy in carcinoma cervix.
2. Describe the conventional technique and planning for craniospinal irradiation.
3. Mention the beam modifying devices and describe any 2 of them.

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

1. What are the advantages of 3DCRT over 2D conventional techniques?
2. Beam profile of electron beam therapy. Mention the effect at photon electron field junction.
3. Methods of photon – photon fields matching.
4. What all will you do when a Cobalt 60 source is stuck?
5. Quality assurance in IMRT.
6. Optimization in high dose rate (HDR) brachytherapy.
7. Immobilization devices used in stereotactic treatments in brain tumors.
8. Difference between divergent and non-divergent shielding blocks.

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

1. Cone beam CT.
2. Mention three critical structures in brain and their tolerance doses.
3. Mention the various limb positions used for planning extremity sarcomas in lower limb.
4. Mention acute and chronic complications of local radiation therapy in breast cancer.
5. Mention 2 examples for irregular fields in radiation therapy. Whose method is used to calculate for irregular fields?
6. Mention the six positions of TSET.
7. Define GTV, CTV and PTV.
8. Mention 2 types of particle external beam therapy available currently in the world.
9. Mention 3 indications for palliative radiation therapy.
10. How is MRI scan useful in radiation planning?
