

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

THIRD YEAR

PAPER I – RECENT ADVANCES IN RADIOTHERAPY TECHNIQUES

Q.P. Code: 801936

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Volumetric Modulated Arc Therapy and its advantages over IMRT.
2. The role of a technologist during IMRT treatment for Ca. Nasopharynx – Explain in detail including patient preparation, patient set up, chart checking and verification.
3. Explain SRS and SRT and explain the various accessories used for immobilization and localization during SRS/SRT treatments.

II. Write notes on:

(8 x 5 = 40)

1. The role of electron beams in Radiotherapy.
2. Different types of Bolus materials. Explain why bolus is used during radiotherapy.
3. Real time imaging. Advantages of using real time imaging in radiotherapy.
4. Treatment technique for total body electron therapy.
5. Networking in radiotherapy and advantage.
6. Different types of simulator.
7. Patient setup and image verification in advanced treatment techniques.
8. Types of Brachytherapy with examples.

III. Short answers on:

(10 x 3 = 30)

1. Usage of Fiducial implants in radiotherapy.
2. Write notes on cerrobend material.
3. Possible treatment techniques for Ca. Rectum.
4. Short notes on immunotherapy.
5. Procedure for Planning CT.
6. Uses of wedges in radiotherapy.
7. The difference between Co-Planar and Non Co-Planar treatment techniques.
8. MLC and its advantages.
9. Advantage of custom blocks with example.
10. What is Hypo fractionated Radiotherapy and Hyper fractionated Radiotherapy?