

**B.Sc. IN RADIATION THERAPY TECHNOLOGY
(BRTT)**

00301

**Term-End Examination
June, 2015**

**BAHI-041 : ADVANCE RADIOTHERAPY
EQUIPMENT**

Time : 3 hours

Maximum Marks : 70

PART - A

Answer five questions. Each question carries
eight marks. **8x5=40**

1. (a) What is stereotactic radiotherapy ? Write down different techniques of stereotactic radiotherapy.

(b) What are the different types of frames used for SRS/SRT ? Mention the significance of frames.
2. Explain about Gamma knife equipment with diagram.
3. Explain the various methods of IMRT treatment delivery.
4. Explain different types of arrangements of multileaf collimator in linear accelerators. What is the use of multileaf collimators ?
5. What are the different techniques used for organ motion management ?

6. Write down the procedure of patient specific QA for IMRT.
7. What is the principle of 3D image guided radiotherapy ? Explain its significance in radiotherapy. What is its advantage over 2D image guided radiotherapy ?
8. Write down the steps involved in any four quality assurance of linear accelerator.

PART - B

Answer **any five** questions. Each carries **six** marks.

6x5=30

9. (a) Write short note on micro multileaf collimator and its uses.
 - (b) What is the use of Asymmetric Collimator ?
 - (c) Write short notes on tomotherapy.
 - (d) Write short notes on Treatment Planning System and its uses.
 - (e) Write short notes on PET-CT and its uses in radiotherapy.
 - (f) Write short notes on proton therapy and the significance of Bragg Peak.
 - (g) Write two MLC quality assurance and its procedure.
 - (h) Explain the basic principles of neutron production for radiotherapy in D-T generator and cyclotron.
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