

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

**Term-End Examination**

**December, 2014**

**BAHI-041 : ADVANCE RADIOTHERAPY  
EQUIPMENT**

*Time : 3 Hours*

*Maximum Marks : 70*

**PART - A**

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

**8x5=40**

1. Write short notes on gamma knife and cyber knife. Write down the differences between these two.
2. Write down the different types of multileaf collimators and explain them in detail.
3. Explain about different methods of gating and breath hold techniques.
4. Explain the various methods of IMRT treatment delivery techniques.
5. What is treatment planning system ? What is the use of its in radiotherapy ? Explain about forward planning and inverse planning in radiotherapy.

6. Write about specific QA for stereotactic radiotherapy and stereotactic radiosurgery.
7. What are the steps involved in IMRT patient specific QA ?
8. Explain about tomotherapy machine and treatment delivery.

### **PART - B**

9. Answer **any five** questions. Each carries **six** marks. **6x5=30**
    - (a) Write short notes on linac based stereotactic irradiation method.
    - (b) Write short notes on Asymmetric collimators and its uses.
    - (c) Expand DICOM RT. What is the use of DICOM in radiotherapy ?
    - (d) Write short notes on EPID and its uses.
    - (e) Write short notes on Proton therapy and the significance of bragg peak.
    - (f) Explain about Brown-Robert-Wells (BRW) frames in SRS.
    - (g) Explain about use of PET-CT in radiotherapy.
    - (h) What is Quality Index ? How to measure the quality index ?
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