

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

Term-End Examination

June, 2013

**BAHI-041 : ADVANCE RADIOTHERAPY
EQUIPMENT**

Time : 3 Hours

Maximum Marks : 70

PART - A

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

1. Explain the isocentric Linac based stereotactic Radio surgery.
2. Explain the necessary QA tests needed to verify the accuracy of MLC.
3. Explain in detail about the methods of treatment delivery in IMRT using Linac.
4. Describe the various quality assurance tests to be carried out during commissioning of tele cobalt unit.
5. What is IGRT ? Enlist the advantages of IGRT. Explain the methods of 3D image guidance.

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6. Explain the significance of portal imaging and how do you perform it using film. Discuss the disadvantages of film with EPID.
7. Explain the production and the therapeutic use of proton beams in the treatment of cancer. List out the advantages of proton beams.
8. What are the methods involved in gated radiation therapy ?

PART - B

9. Write short notes on *any five* of the following. Each carries *six* marks. 6x5=30
- (a) The role of cyber knife in the advancement of radiotherapy
 - (b) Target localization accessories for SRS and SRT
 - (c) Intensity modulation using Tomotherapy
 - (d) MMLC in stereotactic Irradiation
 - (e) Radiotherapy networking and Dicom RT
 - (f) Calibration and QA of EPID
 - (g) Explain briefly about the use of PET - CT in radiotherapy planning
 - (h) Boron Neutron Capture Therapy
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