

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

Term-End Examination

June, 2014

**BAHI-041 : ADVANCE RADIOTHERAPY
EQUIPMENT**

Time : 3 Hours

Maximum Marks : 70

PART - A

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

1. Explain in detail how intensity modulation is achieved in IMRT treatment.
2. Give the goal and clinical benefits of proton beams in the treatment of cancer.
3. How does IGRT help to improve the accuracy of the radiation field placement and to reduce the exposure of healthy tissue during radiation treatments ?
4. What are the quality assurance test carried out for EPID and how does the calibration performed ?
5. Explain the role and significance of MMLC in stereotactic radiotherapy.

6. Discuss the differences between 2D and 3D image guided radiotherapy and list the advantages of 3D over 2D.
7. Describe in detail the specific QA performed for SRS treatment.
8. Compare cyber knife with other stereotactic system and give its clinical uses.

PART - B

9. Write short notes on **any five** of the following.

Each carries six marks.

6x5=30

- (a) Neutron therapy
 - (b) QA for teletherapy machines
 - (c) Radiotherapy networking
 - (d) 3D TPS
 - (e) Asymmetric collimators for linac
 - (f) Portal verification using film
 - (g) Tomotherapy
 - (h) Localization techniques in SRS
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