

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

00985

**Term-End Examination
December, 2012**

**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. What does the term stereotactic mean ? Explain in detail about the Linac based stereotactic irradiation methods.
2. Enlist the different types of Multileaf collimators and explain them in detail.
3. Give the various methods of treatment delivery in IMRT.
4. Describe the various steps involved in the patient specific quality assurance test for IMRT treatment.
5. What are the principles of 2D and 3D Image guided radiotherapy ? Explain the significance of this in radiotherapy treatment.

6. Explain the role of EPID as an imaging device in radiotherapy and give its types.
7. What are the methods involved in gated radiation therapy ?
8. Explain the production of neutron using cyclotron facility and give its clinical use.

PART - B

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

Each carries *six* marks.

6x5=30

- (a) The use of Gamma Knife in radiotherapy.
 - (b) MMLC in stereotactic Irradiation.
 - (c) List the advantage of MLC over conventional blocks.
 - (d) Mention the uses of 3D planning system
 - (e) The importance of Winston Lutz test in SRS QA.
 - (f) Explain the organ motion management in IGRT.
 - (g) Significance of Bragg peak in proton beam therapy.
 - (h) Write the uses of asymmetric collimators.
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