

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

Term-End Examination

December, 2015

**BAHI-034 : RADIOTHERAPY EQUIPMENT AND
PHYSICS**

Time : 3 hours

Maximum Marks : 70

Note : (i) *There are eight questions.*
(ii) *Attempt any five questions. Question No. 1 is compulsory.*

1. Write short notes on **any six** of the following. Each carries 5 marks. **6x5=30**
- (a) Stereotactic Radiosurgery and Radiotherapy and its clinical indications.
 - (b) Ranges of potential voltage used in generating Grenz ray, Superficial and Orthovoltage beam therapy for external beam radiotherapy.
 - (c) 3D Treatment Planning System and its algorithms.
 - (d) Electronic portal imaging device.
 - (e) Green lasers and Red lasers.
 - (f) Radiotherapy Computer Networking used for plan transfer.
 - (g) Radiation sources used for brachytherapy planning.
 - (h) Types of applicators used for intracavitary brachytherapy treatment.
 - (i) HDR remote after-loader and LDR remote after-loader.

2. Write in detail Medical Linear Accelerator used in external beam radiotherapy. 10
 3. State the difference between Simulator-CT and CT-Simulator. 10
 4. Explain how will you manage pediatric patients administrated with anesthesia, when cobalt source has got stuck in emergency condition. 10
 5. Explain cone-beam CT. Discuss how it is used in image guided radiotherapy for both geometric and dosimetric purposes. 10
 6. Explain the following dosimetric equipments : 4, 3, 3
 - (a) TLD
 - (b) MOSFET
 - (c) OSL
 7. Describe radiation field analyzer and its peripheral software used for dosimetry. 10
 8. Explain about different types of survey meter for photon and neutron measurements. 10
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