

**B.Sc. IN MEDICAL IMAGING TECHNOLOGY
(BMIT)**

Term-End Examination

June, 2016

00266

BAHI-031 : BASICS OF RADIOLOGICAL PHYSICS

Time : 3 hours

Maximum Marks : 70

Note : *This question paper has two parts, A and B. Attempt any **five** questions from Part A. Each question carries 8 marks. Attempt any **five** short notes from Part B. Each carries 6 marks.*

PART A

*Answer any **five** questions. Each question carries 8 marks.*

5×8=40

1. What is Bremsstrahlung ? Describe the basic mechanism of production of X-rays.
2. Describe the construction and working of a transformer.
3. Explain Exponential Law. Derive the half-life of the radioactive material.

4. Describe the interaction of homogeneous X-rays with matter.
5. Describe the thimble ionisation chamber and how it is used to measure the gamma rays.
6. How will you design the X-ray room ?
7. Describe the properties of α , β and γ -rays.
8. What is TLD ? How is it used for personal monitoring device ?

PART B

Write short notes on any **five** of the following. Each carries 6 marks.

5×6=30

9. (a) Added Filter
(b) Ohm's Law and Ampere's Law
(c) Tenth Value Layer
(d) Angle of the Anode
(e) AERB
(f) EMR-Spectrum
(g) Photoelectric Effect
(h) Effects of Radiation on Cell
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