

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

00101

Term-End Examination

December, 2015

**BAHI-043 : RADIOBIOLOGY AND RADIATION
PROTECTION**

Time : 3 hours

Maximum Marks : 70

Note : There are nine questions. Question no. 1 to 8 carries eight marks each. Attempt any five from it. Question no. 9 is compulsory. It carries thirty marks.

1. Explain the cell cycle and cell death with diagram. 8
2. Describe the 5 R's of Radio biology. 8
3. Discuss LQ model, BED and its components. $4+2+2=8$
4. Write the concept and advantages of fractionation. 8
5. Explain work load, use factor and occupancy factor. Explain the relationship among these factors. $4+4=8$
6. Discuss different types of personnel monitoring device. 8
7. Define radiation monitoring device. Explain any two models of radiation monitoring device. $2+3+3=8$

8. Write radiation Dose limits for radiation Workers, Public, Trainees, etc as per ICRP Guidelines. 8
9. Write in brief on any five of the following : 5x6=30
- (a) Effective Dose and Equivalent Dose. 6
 - (b) Hyper fractionation and Hypo fractionation. 6
 - (c) Radio sensitizers and Radio protectors. 6
 - (d) Somatic and Genetic effects of radiation. 6
 - (e) Stochastic and deterministic effects of radiation. 6
 - (f) Oxygen enhancement ratio. 6
 - (g) Emergency Procedure to follow in case of source struck in tele cobalt unit. 6
 - (h) Time, distance and shielding in radiation protection. 6
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