[LK 0217] FEBRUARY 2017 **Sub. Code: 2122**

B.Sc. NUCLEAR MEDICINE TECHNOLOGY

THIRD YEAR

PAPER II – RADIATION BIOLOGY AND RADIATION SAFETY IN NUCLEAR MEDICINE

Q.P. Code: 802122

Time: Three Hours **Maximum: 100 Marks**

Answer all questions

I. Elaborate on: **(3 x 10 = 30)**

1. Describe the AERB regulatory guidelines to set up a nuclear medicine facility with neat layout sketch.
2. Discuss the risk of radiation during different stages of pregnancy.
3. Describe the characteristics of stochastic and deterministic effects of ionizing radiation. Give an example for each effect.

II. Write notes on: **(8 x 5 = 40)**

1. Aim of Radiation Protection.
2. Environmental monitoring instruments.
3. Write short notes on early and late effects.
4. Worktop surfaces and Fume hood.
5. Discuss the risk of radiation induced malignancy.
6. Radiation monitors for safety survey.
7. ICRP 60 report recommendations.
8. Radiation induced chromosome damage.

III. Short answers on: **(10 x 3 = 30)**

1. Exposure.
2. Tissue weighting factor.
3. DAC and ALI.
4. Activity.
5. ALARA Principle.
6. Occupational exposure.
7. Biological Half life.
8. Internal exposure.
9. Equivalent Dose.
10. Genetic Mutation.

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