[LL 0817] AUGUST 2017 **Sub. Code: 1823**

B.Sc. RADIOLOGY IMAGING TECHNOLOGY

THIRD YEAR

PAPER III – RADIOBIOLOGY AND RADIATION SAFETY

Q.P. Code: 801823

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

Answer all questions

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

1. Explain in detail about the Deterministic effects of radiation.
2. Describe in detail the methods of control of radiation exposure.
3. Draw a fluoroscopy equipment layout and discuss the safety specifications in details as per AERB Recommendations.

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

1. Explain the radiolysis of water.
2. Elaborate the effects of radiation during pregnancy.
3. Explain about chromosomal aberration.
4. Discuss about the sources of exposure in Diagnostic/Interventional X-ray room.
5. Discuss the AERB guidelines for shielding of X-ray Installations.
6. Sources of background ionizing radiation.
7. Principle of Thermoluminescent Dosimeter and guidelines for using TLDS.
8. Discuss the radiation survey procedure in X-ray installations.

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

1. Radiation induced leukemia.
2. Lifespan Shortening.
3. What is chronic radiation dermatitis?
4. Law of Bergonie and Tribondeau.
5. Primary and secondary barriers.
6. Workload and occupancy factor.
7. AERB safety specifications for Dark Room.
8. Annual dose limits of radiation worker and pregnant radiation worker.
9. Dose limits for students/trainees.
10. Pocket dosimeters.

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