[LG 0215] **FEBRUARY 2015** **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. Describe the procedure and methods of AERB regulatory requirements to design of diagnostic X-ray installation with neat layout sketch.
2. Explain about the somatic and hereditary effects of radiation with example.
3. Write in detail about the area monitoring and assess the status of radiation safety.

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

1. What are the early effects of radiation?
2. Control of hazard due to external exposure.
3. Dose limits for public.
4. ICRP 60.
5. Leakage radiation and permissible limit for x-ray tube housing.
6. Radiation protection of workers.
7. Fluoroscopy equipment radiation safety.
8. Registration of X-ray unit with AERB.

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

1. What are procedures and tools to reduce patient dose?
2. Chromosome aberration.
3. Late effect of radiation.
4. Annual dose limit of radiation worker and pregnant radiation worker.
5. The level of exposure in working area is 2 mR/hr. How long one should permit to work per day without exceeding the weekly permissible dose limit?
6. Equivalent dose.
7. Use factor.
8. Protection of general public.
9. What is the relationship between time and exposure?
10. Occupational exposure.

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