

**B.Sc. RADIOLOGY IMAGING TECHNOLOGY**  
(New syllabus – 2014-2015)

**THIRD YEAR**

**PAPER III – QUALITY CONTROL, RADIOBIOLOGY AND RADIATION  
SAFETY IN RADIODIAGNOSIS / IMAGING**

*Q.P. Code: 801838*

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer all questions**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Name various tests for quality assurance of radiographic units. Write about linearity of mA and tube housing leakage.
2. Describe the procedure and methods of AERB regulatory requirements to design a diagnostic X-ray installation with neat layout sketch.
3. What is ALARA? Explain various methods to reduce patient dose in fluoroscopy.

**II. Write notes on:**

**(8 x 5 = 40)**

1. Quality assurance procedures of film processors.
2. Determination of focal spot size.
3. Role of radiation safety officer in quality control programme.
4. What are the early effects of radiation?
5. Internal exposure.
6. Effective dose.
7. Explain the principle and working of a pocket dosimeter.
8. Background radiation exposure.

**III. Short answers on:**

**(10 x 3 = 30)**

1. Gantry tilt assessment in CT.
2. Recommended mobile x-ray unit exposure cable length.
3. What are two building materials available for the construction of radiation protecting walls?
4. Thermo luminescence dosimeter.
5. What is the relationship between time and exposure?
6. Chromosome aberration.
7. Annual dose limit of radiation worker and pregnant radiation worker.
8. What are procedures and tools to reduce patient dose?
9. Equivalent dose.
10. Half value layer.

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