

**DIPLOMA IN RADIOLOGY IMAGING TECHNOLOGY**  
**SECOND YEAR**

**PAPER IV – QUALITY CONTROL IN RADIOLOGY AND  
RADIATION SAFETY**

*Q.P. Code: 841414*

**Time : Three Hours**

**Maximum : 100 Marks**

**Answer All questions.**

**I. Elaborate on:**

**(3 x 10 = 30)**

1. Name various tests for quality assurance of radiography units. Write about Linearity of timer and beam alignment test.
2. Explain NABH quality control procedure.
3. Explain how to reduce patient dose and operator dose in radiography?

**II. Write notes on:**

**(10 x 5 = 50)**

1. Explain the principle and working of ionisation chamber.
2. What is equivalent dose and its unit?
3. Natural and manmade sources of radiation.
4. Measurement of CT dose index.
5. List of radiation safety devices and their uses.
6. What is stochastic effect? Give example.
7. Atomic energy regulatory board recommendations for radiation protection.
8. Calculation of work load in diagnostic radiology.
9. Describe about linearity of MA assessment.
10. Inverse square law and its application in radiation protection.

**III. Short answers on:**

**(10 x 2 = 20)**

1. What is Roentgen?
2. What is filter?
3. Write briefly about phantoms.
4. Define quality assurance.
5. Pin prick test for HDR brachytherapy.
6. AERB dose limit for a pregnant radiation worker.
7. Atomic number and density of lead.
8. What is genetic effect? Give example
9. Pocket dosimeter.
10. Expand ICRP, AERB.