

**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. Describe Biological effects of radiation.
2. Describe the Quality assurance for computed tomography.
3. Personal monitoring devices and their features. Guide lines for using TLD badges.

**II. Write notes on:**

**(10 x 5 = 50)**

1. Explain Geiger Muller Counter.
2. Explain AERB recommendations on dose limit for radiation workers.
3. Explain natural and man-made sources of radiation.
4. Describe the shielding materials in radiation control.
5. Tube housing leakage.
6. Central beam alignment test for radiography unit.
7. Pocket dosimeter.
8. Explain the principle and working of free air Ionization chamber.
9. How will you plan the construction of an X-ray room?
10. Measurement of CT does index.

**III. Short answers on:**

**(10 x 2 = 20)**

1. ALARA
2. What is Sivert?
3. What is Roentgen?
4. Half value layer and tenth value layer.
5. What is the minimum are required for CT scan room?
6. What is the aim of radiation protection?
7. Write the X-ray radiation warning sign.
8. Give the merits of fill badge.
9. 10 day rule.
10. Equivalent dose and effective dose.