[LG 0215] **FEBRUARY 2015** **Sub Code: 1802**

B.Sc. RADIOLOGY IMAGING TECHNOLOGY

FIRST YEAR

PAPER II – GENERAL PHYSICS, RADIATION PHYSICS AND PHYSICS OF DIAGNOSTIC REDIOLOGY

Q.P. Code: 801802

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

Answer All questions.

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

1. Describe in detail about mutual and self induction and its application in radiology.
2. Describe in detail about working principle of Coolidge X-ray tube.
3. Explain the TLD personnel monitoring device and bring out its salient features over film badge.

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

1. Write briefly about effect of an electric current.
2. Explain about magnetic fields.
3. Radiation survey meter.
4. Radioactive decay constant.
5. Give a brief an account of properties of X- rays.
6. Capacitor and capacitance.
7. Explain about nucleon.
8. Fleming’s left hand rule.

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

1. Define coulomb.
2. Define HVL.
3. Properties of target material.
4. Mass defect.
5. Voltmeter and Ammeter.
6. Lenz’s law.
7. Transformer efficiency.
8. Inverse square law.
9. Write a relationship between HVL and linear attenuation.
10. Atom and molecules.

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