[LG 0215] **FEBRUARY 2015** **Sub.Code :2111**

B.Sc. NUCLEAR MEDICINE TECHNOLOGY

SECOND YEAR

PAPER I – PHYSICS OF NUCLEAR MEDICINE INSTRUMENTATION

Q.P. Code: 802111

Time: Three hours **Maximum : 100 Marks**

Answer All questions

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

1. Describe with basic principle, design and working of Gamma camera.
2. Explain the working principle of G.M. Counter.
3. Explain the principle and working of a scintillation detector.

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

1. Ionization Chamber.
2. Liquid scintillation detector.
3. Pulse height analyzer.
4. Spectra of Tc-99m and I-131.
5. Integral and differential counting.
6. Different statistical tests.
7. System resolution.
8. Multi crystal scanners.

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

1. Shielding requirement of well counter.
2. Window setting.
3. Standard deviation.
4. Figure of merit.
5. Gray curve.
6. Septa thickness in collimators.
7. Scan speed.
8. Geometric efficiency of collimators.
9. Precision and accuracy.
10. Pre amplifiers.

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