[LL 0817] AUGUST 2017 **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 PET/CT detector crystals in detail.
2. Describe parts of gamma camera. Types of collimator.
3. Statistics of counting in gamma camera.

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

1. Thyroid uptake probe.
2. Sentinel gamma probe.
3. Liquid scintillation counter.
4. Photo mutipher fuse.
5. Analogue digital controls.
6. Total system resolution.
7. Frame mode acquisition.
8. Filter and accumulation methods.

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

1. ROI analysis.
2. Gray curve.
3. Iso-response curves.
4. Shielding.
5. Field of view.
6. NaI crystal.
7. Semiconductor detectors.
8. Poisson distribution
9. I-131 scan window setting.
10. Accuracy.

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