

[LN 0818]

AUGUST 2018

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. Physics of positron emission and Annihilation.
2. Gas filled radiation detectors.
3. Types of collimator. Describe in detail.

II. Write notes on:

(8 x 5 = 40)

1. List of radionuclides that decay by positron emission.
2. Quality control of PET component of PET/CT scanner.
3. Semiconductor detectors.
4. Window settings.
5. Rectilinear scanner.
6. Resolution of system.
7. Types of common PET scanner configurations.
8. 511 Kev photon detectors.

III. Short answers on:

(10 x 3 = 30)

1. Micro PET scanner.
2. TOF-PET scanner.
3. ROI analysis.
4. Cathode Ray tube.
5. Multi system crystal scanners.
6. Chi-square test.
7. Preamplifier.
8. Isotope Calibrator.
9. Crystal used in PET/CT scanner.
10. Poisson distribution.
