

[AHS 0321]

MARCH 2021

Sub. Code: 2111

(AUGUST 2020 EXAM SESSION)

B.Sc. NUCLEAR MEDICINE TECHNOLOGY

SECOND YEAR (Regulations 2010-2011)

PAPER I – PHYSICS OF NUCLEAR MEDICINE INSTRUMENTATION

Q.P. Code : 802111

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Single channel analyzer, Multichannel analyzer and window settings.
2. Explain different types of collimators used in gamma camera.
3. Describe the principle and working of scintillation detector

II. Write notes on:

(8 x 5 = 40)

1. Pulse height analyzer
2. GM counter
3. Thyroid uptake probe.
4. Frame mode acquisition.
5. Flat field collimator
6. PMT.
7. Counter paralysis.
8. Na I (Tl) crystal.

III. Short answers on:

(10 x 3 = 30)

1. ROI analysis.
2. Cathode ray tube.
3. Partial volume effect.
4. Image segmentation in Nuclear Medicine.
5. Pocket dosimeter
6. Septal thickness in collimator
7. Dynodes in PMT.
8. TOF-PET.
9. Standard deviation.
10. Shielding requirement of well counter
