

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1023]

OCTOBER 2023

Sub. Code: 2311

**M.Sc. NUCLEAR MEDICINE TECHNOLOGY
SECOND YEAR (From 2020-2021 onwards)
PAPER I - NUCLEAR MEDICINE INSTRUMENTATION – II MRI, PET &
SPECT**

Q.P. Code: 282311

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Data acquisition for SPECT.
2. Performance Characteristics of PET System.

II. Write Short Notes on:

(10x6 = 60)

1. Receiver Operating Characteristic Study (ROC study).
2. Simple back projection.
3. Expectation maximization reconstruction.
4. Whole body PET system.
5. Basic principle of PET MR.
6. Correction for random coincidences in PET imaging.
7. Noise Equivalent Counting Rate (NECR).
8. Possible sources of Artifacts for CT based correction.
9. Time of flight PET.
10. X-ray tube.
