

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

[MD 1224]

DECEMBER 2024

Sub. Code: 4069

**M.D. DEGREE EXAMINATION
NUCLEAR MEDICINE**

PAPER I – BASIC SCIENCES RELATED TO NUCLEAR MEDICINE

Q.P. Code: 204069

Time : Three Hours

Maximum : 100 Marks

I. Write short notes on:

(20 x 5 = 100)

1. Partition coefficient.
2. Frame mode Acquisition.
3. Deconvolution analysis and its clinical utility.
4. Holospectral imaging.
5. ACD.
6. LSF.
7. FBP.
8. Contrast detail studies.
9. Cathode ray tube.
10. Types of measurement errors.
11. Energy linearity.
12. Gas flow counters.
13. Parallel hole collimator.
14. Factors affecting spatial resolution.
15. 3D PET reconstruction.
16. MIRD.
17. Scatter correction.
18. FWHM.
19. Chi square test.
20. Image Non linearity.

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

[MD 1025]

OCTOBER 2025

Sub. Code: 4069

M.D. DEGREE EXAMINATION

NUCLEAR MEDICINE

PAPER I – BASIC SCIENCES RELATED TO NUCLEAR MEDICINE

Q.P. Code: 204069

Time : Three Hours

Maximum : 100 Marks

I. Write short notes on:

(20 x 5 = 100)

1. Compton scatter.
2. Isobar, isotones, isotopes, isomers.
3. DE convolution analysis and its clinical utility.
4. Radiation weighted dose.
5. Histogram equalization.
6. N-gamma reaction.
7. Neutron activation analysis and implications.
8. Truncation artifacts.
9. Scatter and random correction in PET.
10. Principles of Nuclear reactor.
11. Cardiac PET.
12. Pin hole collimator.
13. Factors affecting detector sensitivity.
14. Decision matrix and its applications.
15. Compartmental analysis.
16. Phases of clinical trials.
17. Bi-exponential fitting.
18. Resolution recovery.
19. Surface rendering.
20. eLORA.
