

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

[AHS 0222]

**FEBRUARY 2022
(OCTOBER 2021 EXAM SESSION)**

Sub. Code: 2303

**M.Sc. NUCLEAR MEDICINE TECHNOLOGY
FIRST YEAR
(Candidates admitted from 2019-2020 onwards – Paper III)
(Candidates admitted from 2020-2021 onwards – Paper IV)
PAPER III & IV – MATHEMATICS AND STATISTIC
*Q.P. Code : 282303***

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on: (2 x 20 = 40)

1. Describe the uses of student-t-tests with examples.
2. a) What is the medical decision making and principle of receiver operating Characteristic (ROC)?
b) Explain in detail about types of data with example.

II. Write Short Notes on: (10x6 = 60)

1. Explain about normal distribution with example.
2. What are most commonly used continuous functions in nuclear medicine?
3. What are the methods used to describe dispersion of data.
4. Explain the concept of correlation with example.
5. Explain coordinate system and its types.
6. Explain Mann Whitney U test .
7. Explain Chi-square test.
8. Explain mean, median and mode with example.
9. Methods of least square fitting.
10. Explain parametric functions.

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

[AHS 0522]

MAY 2022

Sub. Code: 2303

M.Sc. NUCLEAR MEDICINE TECHNOLOGY

FIRST YEAR

(Candidates admitted from 2019-2020 onwards – Paper III)

(Candidates admitted from 2020-2021 onwards – Paper IV)

PAPER III & IV – MATHEMATICS AND STATISTIC

Q.P. Code : 282303

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Describe the uses of student-t-tests with examples.
2. a) What is the medical decision making and principle of receiver operating Characteristic (ROC)?
b) Fourier Transform and its application in nuclear medicine.

II. Write Short Notes on:

(10x6 = 60)

1. Explain about normal distribution with example.
2. What are most commonly used continuous functions in nuclear medicine?
3. What are the methods used to describe dispersion of data.
4. Explain the concept of correlation with example.
5. Explain coordinate system and its types.
6. Explain about simple back projection.
7. Explain Chi-square test.
8. Explain about filtered back projection.
9. Methods of least square fitting.
10. Explain parametric functions.

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

[AHS 1022]

OCTOBER 2022

Sub. Code: 2303

M.Sc. NUCLEAR MEDICINE TECHNOLOGY

FIRST YEAR

(Candidates admitted from 2019-2020 onwards – Paper II)

(Candidates admitted from 2020-2021 onwards – Paper III)

PAPER IV – MATHEMATICS & STATISTIC

Q.P. Code : 282303

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Explain the Difference between Parametric and Nonparametric Test. List out tests in each type.
2. What are most commonly used discrete and continuous functions in nuclear medicine?

II. Write Short Notes on:

(10x6 = 60)

1. Correlation with an example.
2. Continuous distribution and its types.
3. Methods of least square fitting.
4. Coordinate system and its types.
5. Chi-square test with an example.
6. Simple and filtered back projection.
7. Fourier Transform and its application.
8. Kruskal Wallis test with example.
9. Graphical representation of a complex number.
10. Decision making and principle of receiver operating Characteristic (ROC).
