

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

[AHS 0222]

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

Sub. Code: 2828

**ALL M.Sc. COURSES AND M.OPTOM, EXCLUDING M.Sc. BIOSTATISTIC,
M.Sc. EPIDEMIOLOGY AND M.Sc. PUBLIC HEALTH.**

FIRST YEAR

**PAPER I – PRINCIPLES OF EPIDEMIOLOGY, RESEARCH METHODOLOGY,
BIOSTATISTICS AND MEDICAL ETHICS**

Q.P. Code : 282828

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

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

1. Define Epidemiology. What are the uses of Epidemiology? Describe various study designs, key features and relative advantages and disadvantages of each design.
2. What is 'Protocol Writing' in Research? What are the common components in protocol? Write a sample protocol.

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

1. Natural history of disease.
2. Measures of association.
3. Steps involved in designing a questionnaire.
4. Operations Research.
5. ICMR guidelines and IEC (Institutional Ethics Committee).
6. What is Blinding? List the types of blinding with brief note on each.
7. What is Odds Ratio? Explain briefly its application.
8. Measures of central tendency.
9. Alpha and Beta errors.
10. Bioethics.

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

[AHS 0522]

MAY 2022

Sub. Code: 2828

**ALL M.Sc. COURSES AND M.OPTOM, EXCLUDING M.Sc. BIostatistic,
M.Sc. EPIDEMIOLOGY AND M.Sc. PUBLIC HEALTH.**

FIRST YEAR

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BIostatistics AND MEDICAL ETHICS**

Q.P. Code : 282828

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Describe the various methods of sampling in detail.
2. Is single Research design suitable for all studies? Why? Describe the types of epidemiological designs in detail. Write the advantage and disadvantage of each study design.

II. Write Short Notes on:

(10x6 = 60)

1. Outbreak investigation.
2. Differentiate: Primary Data against Secondary Data.
3. Non-parametric tests.
4. Bias.
5. What is range, standard deviation and normal distribution?
6. Validity and Reliability of Instrument.
7. Ethics in Research.
8. Steps involved in testing Hypothesis.
9. Confidence intervals and p values.
10. How will you determine optimal sample size?

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

[AHS 1022]

OCTOBER 2022

Sub. Code: 2828

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M.Sc. EPIDEMIOLOGY AND M.Sc. PUBLIC HEALTH.**

FIRST YEAR

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7. Ethics in Research.
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9. Confidence intervals and p values.
10. How will you determine optimal sample size?

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

[AHS 0523]

MAY 2023

Sub. Code: 2828

**ALL M.Sc. COURSES AND M.OPTOM, EXCLUDING M.Sc. BIostatistic,
M.Sc. EPIDEMIOLOGY AND M.Sc. PUBLIC HEALTH.**

FIRST YEAR

**PAPER I – PRINCIPLES OF EPIDEMIOLOGY, RESEARCH METHODOLOGY,
BIostatistics AND MEDICAL ETHICS**

Q.P. Code: 282828

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

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(2 x 20 = 40)

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5. ICMR guidelines and IEC (Institutional Ethics Committee).
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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 1023]

OCTOBER 2023

Sub. Code: 2828

**ALL M.Sc. COURSES AND M.OPTOM, EXCLUDING M.Sc. BIOSTATISTIC,
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FIRST YEAR

**PAPER I – PRINCIPLES OF EPIDEMIOLOGY, RESEARCH METHODOLOGY,
BIOSTATISTICS AND MEDICAL ETHICS**

Q.P. Code: 282828

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Enumerate the different probability distributions with examples.
2. What do you mean by Focused Group Discussion (FGD)? Briefly mention about the scope of FGD. What are the steps of conduction of FGD?

II. Write Short Notes on:

(10x6 = 60)

1. Gantt chart.
2. Life table and its uses.
3. Indirect standardization.
4. Nested case control study.
5. Non randomized trials.
6. Basic principles of medical research ethics.
7. List out the various methods of data presentation.
8. Cluster sampling method.
9. Ecological studies and ecological fallacy.
10. Measurement of morbidity.

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

[AHS 0524]

MAY 2024

Sub. Code: 2828

**ALL M.Sc. COURSES AND M.OPTOM, EXCLUDING M.Sc. BIostatistic,
M.Sc. EPIDEMIOLOGY AND M.Sc. PUBLIC HEALTH.**

FIRST YEAR

**PAPER I – PRINCIPLES OF EPIDEMIOLOGY, RESEARCH METHODOLOGY,
BIostatistics AND MEDICAL ETHICS**

Q.P. Code: 282828

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. What are the steps in case control study? Explain in detail about ODDS ratio and its interpretation.
2. What are the different modes of disease transmission and explain in detail about secondary attack rate.

II. Write Short Notes on:

(10x6 = 60)

1. Epidemiological triad.
2. Relationship between incidence and prevalence.
3. Relative risk and Attributable risk.
4. Write in brief about multi factorial causation of disease.
5. Stratified random sampling.
6. What are the different types of carriers in disease dynamics?
7. What is called Randomization in clinical trial?
8. Calculate mean, median and mode for the following weight 10,12,12,8,13,10,14.
9. Write in brief about different types of questionnaires.
10. What are the four major principles of Bio-Ethics?

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

[AHS 1024]

OCTOBER 2024

Sub. Code: 2828

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FIRST YEAR

**PAPER I – PRINCIPLES OF EPIDEMIOLOGY, RESEARCH METHODOLOGY,
BIostatistics AND MEDICAL ETHICS**

Q.P. Code: 282828

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Explain the differences between qualitative and quantitative research methods and their respective uses in healthcare research.
2. What is correlation coefficient and coefficient of determination? Describe the different types of correlation coefficient with examples.

II. Write Short Notes on:

(10x6 = 60)

1. Poisson distribution.
2. Survival analysis.
3. Receiver Operating Characteristic Curve (ROC curve).
4. Waiver of consent.
5. Outbreak investigation.
6. Ecological studies with examples.
7. Significance of p value in hypothesis testing.
8. Causal association in epidemiology.
9. Conflict of interest.
10. Relative risk and Attributable risk.

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

[AHS 0525]

MAY 2025

Sub. Code: 2828

**ALL M.Sc. COURSES AND M. OPTOM, EXCLUDING M.Sc. BIOSTATISTIC,
M.Sc. EPIDEMIOLOGY AND M.Sc. PUBLIC HEALTH.**

FIRST YEAR

**PAPER I – PRINCIPLES OF EPIDEMIOLOGY, RESEARCH METHODOLOGY,
BIOSTATISTICS AND MEDICAL ETHICS**

Q.P. Code: 282828

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Classify Epidemiological study designs. Explain in detail the steps in conducting Randomized Control Trial. Discuss the types of analysis in randomized control trial.
2. Describe the concept, 'Natural history of disease' with the help of a schematic diagram. Mention the levels of prevention and modes of intervention.

II. Write Short Notes on:

(10x6 = 60)

1. Spot map.
2. Mortality rates.
3. Confounding factors.
4. Implementation Research.
5. Epidemic curve.
6. Scales of measurement.
7. Data collection methods.
8. Informed consent.
9. Berksonian bias.
10. Measures of dispersion.

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

[AHS 1025]

OCTOBER 2025

Sub. Code: 2828

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FIRST YEAR

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BIostatISTICS AND MEDICAL ETHICS**

Q.P. Code: 282828

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Classify Epidemiological study designs. Describe the steps in conducting cohort study. Explain the types of cohort study with example.
2. Describe the concept of web of causation in relation to coronary heart disease. Discuss the suitable measures of prevention with references to risk factors.

II. Write Short Notes on:

(10x6 = 60)

1. Herd immunity.
2. Differentiate Endemic, Epidemic and Pandemic. Give examples.
3. Effect modifiers.
4. Case reports and case series.
5. Cluster sampling.
6. Types of data.
7. Measures of dispersion.
8. Participant information sheet.
9. Lead time bias.
10. 2 x 2 Factorial design.
