M.Sc., MEDICAL LABORATORY TECHNOLOGY DEGREE EXAMS
(2013-2014 Batch onwards)
FIRST YEAR
PAPER V – EPIDEMIOLOGY AND BIOSTATISTICS

Q.P. Code : 281255

Time : Three hours **Maximum : 100 marks**

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

1. Discuss Bradford Hills criteria for establishing Causal Association. Describe in detail the design and conduct of Cohort Studies.

2. What is Bias? Discuss the different types of bias. How do you control Bias?

II. Write notes on : **(10 x 6 = 60)**

1. Presentation of data

2. Adjusted rates

3. Randomization

4. Life table

5. Confidence interval

6. Difference between Standard Deviation and Standard error

7. Co-efficient of variation

8. Sampling

9. Standardization

10. Validity of diagnostic tests

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M.Sc. (MEDICAL LABORATORY TECHNOLOGY) DEGREE EXAMINATION

(From 2013-2014 Batch onwards)

FIRST YEAR

PAPER V – EPIDEMIOLOGY & BIOSTATISTICS

Q.P. Code : 281255

Time: Three Hours   **Maximum: 100 marks**

Answer ALL questions

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

1. Discuss the role of epidemiology in health and disease.

2. Describe correlation and regression by explaining its interpretation.

II. Write Notes on: **(10 x 6 = 60)**

1. Adjusted Rates.

2. Accuracy and validity of diagnostic tests.

3. Descriptive Study design.

4. Critical appraisal of published article.

5. Presentation of data.

6. Measures of Central tendancy.

7. Curve for comparing two or more diagnostic tests.

8. Hypothesis.

9. Probability sampling.

10. Chi square test.

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M.Sc. MEDICAL LABORATORY TECHNOLOGY EXAMS
FIRST YEAR
PAPER V – EPIDEMIOLOGY AND BIOSTATISTICS

Q.P. Code: 281255

Time: Three hours   **Maximum: 100 Marks**

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

1. Explain the measure for prevention and control of communicable and non-communicable diseases.

2. Discuss in detail about the various sampling methods.

II. Write notes on: (10 x 6 = 60)

1. Explain the role of epidemiology in health sciences.

2. Discuss about the principal sources of epidemiology.

3. What do you understand by validity of diagnostic tests?

4. Discuss about the natural history of a disease.

5. Describe about the presentation of data through diagrams.

6. Explain about type I and type II error.

7. Discuss about the analysis of variance.

8. Describe the concept of correlation coefficient.

9. Explain the term regression analysis.

10. What are the advantages of non-parametric tests?

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M.Sc. MEDICAL LABORATORY TECHNOLOGY EXAMS
FIRST YEAR
PAPER V – EPIDEMIOLOGY AND BIOSTATISTICS

Q.P. Code: 281255

Time: Three hours　　　　　　　　　　　　　　Maximum: 100 Marks

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

1. Discuss the various criteria in causal association epidemiology.

2. Explain the procedure of testing of hypothesis in detail.

II. Write notes on: (10 x 6 = 60)

1. Describe about the various modes of transmission of a disease.

2. Explain the concept of screening tests.

3. Discuss the methods for controlling communicable and non-communicable diseases.

4. Write a note on sensitivity in terms of diagnostic procedure.

5. Describe the situation of using paired-t test.

6. Explain about chi-square test.

7. Discuss about the need of regression analysis in the field of biostatistics.

8. Write a note on confidence intervals and its uses.

9. What do you mean by central tendencies, how it is useful in health sciences?

10. Explain about sign test.

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M.Sc. MEDICAL LABORATORY TECHNOLOGY EXAMS
FIRST YEAR
PAPER V – EPIDEMIOLOGY AND BIOSTATISTICS

Q.P. Code : 281255

Time : Three hours   **Maximum : 100 Marks**

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

1. Explain the various criteria in causal association epidemiology.

2. Explain the concept of dispersion in statistical analysis. Describe its various measures and discuss their merits and demerits.

II. Write notes on   **(10 x 6 = 60)**

1. Explain various types of epidemiological study design.

2. Discuss about the important role of epidemiology in health science.

3. Describe the term mortality and morbidity and state any two rates in each and its use.

4. State the use of positive predictive value (PPV) and negative predictive value (NPV) in a diagnostic test.

5. Define the various measures of central tendency and state the relationship among mean, median and mode.

6. What is normal distribution? Describe its properties in details.

7. What you understand by paired t-test? Explain its uses in health science.

8. Explain the term regression analysis.

9. Describe the situation of using Mann Whitney – U test

10. State the importance of confidence interval in health research.

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M.Sc. MEDICAL LABORATORY TECHNOLOGY EXAMS
FIRST YEAR
PAPER V – EPIDEMIOLOGY AND BIOSTATISTICS

Q.P. Code : 281255

Time : Three hours   **Maximum : 100 Marks**

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

1. Discuss Bradford Hill's causal criteria in epidemiology.

2. Discuss cohort study design with pertinent example.

II. Write notes on   **(10 x 6 = 60)**

1. Describe Endemic, Epidemic and Pandemic with suitable examples.
2. Explain cross sectional study design.
3. Describe normal distribution.
4. Write a short note on selection bias.
5. Briefly explain randomization and blinding.
6. Explain scales of measurement.
7. Write short notes on p value and confidence intervals.
8. Differences between parametric and non parametric tests.
9. Write short notes on measures of dispersion.
10. Explain Student's t test.

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M.Sc. MEDICAL LABORATORY TECHNOLOGY EXAMS
FIRST YEAR
PAPER V – EPIDEMIOLOGY AND BIOSTATISTICS

Q.P. Code : 281255

Time : Three hours   **Maximum : 100 Marks**

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

1. Write an essay on how you will conduct a Randomized Controlled Trial.

2. What are the tests of significance? Write about the chi-square test in detail.

II. Write notes on   **(10 x 6 = 60)**

1. Why screening is needed? Write shortly on types and uses of screening.

2. Write on Adjusted or Standardized Mortality Rates.

3. Define Specific Death Rate and Case Fatality Rate. Explain these two with one example for each.

4. ROC Curve

5. Hypothesis and its importance.

6. ANOVA

7. What test you will use to compare two means of two independent data sets? Explain.

8. Mention the Criteria to establish Causal Association as pointed out by Bradford Hill.

9. Explain the various sources of Epidemiological Data.

10. Define and explain Relative Risk, Attributable Risk and Population Attributable Risk with suitable example.

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[LQ 1019]   **NOVEMBER 2020**   **Sub. Code: 1255**
(MAY 2020 EXAM SESSION)
M.Sc. MEDICAL LABORATORY TECHNOLOGY
FIRST YEAR
PAPER V – EPIDEMIOLOGY AND BIOSTATISTICS

Q.P. Code : 281255

Time : Three hours   **Maximum : 100 Marks**

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

1. Elaborate on Measures of Central Tendency and Dispersion.

2. Write elaborately on the Steps in conducting a Case-Control Study. How will you interpret the result of a Case-Control Study?

II. Write notes on   **(10 x 6 = 60)**

1. What is Prevalence? What are the types of Prevalence? Explain the types of Prevalence with suitable figure.

2. Confidence Interval.

3. Write about any three types of Charts / Diagrams with suitable figures.

4. Classify Epidemiological Study Designs with Suitable Flow Chart.

5. Write a note on Correlation and its uses.

6. Define Randomization. Write on the method of Randomization and its uses.

7. Mention any Six differences between Screening Test and Diagnostic Test.

8. What are the two classifications of Tests of Significance? Explain each one with a suitable example.

9. What is Association? Mention its Types and explain each with an example.

10. Write the Advantages and Disadvantages of Cohort Study Design and explain each.

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

[AHS 0321]   MARCH 2021   Sub. Code: 1255
(OCTOBER 2020 EXAM SESSION)
M.Sc. MEDICAL LABORATORY TECHNOLOGY
FIRST YEAR (2011-2012 Regulation - From 2013-2014 onwards)
PAPER V – EPIDEMIOLOGY AND BIOSTATISTICS
Q.P. Code : 281255

Time: Three hours   Answer ALL Questions   Maximum: 100 Marks

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

1. Discuss the modes of Transmission and natural history of COVID-19.

2. Describe the concept of Statistical Significance. What are the Merits and Limitations of Tests of Significance? Comment on Clinical Significance and Statistical Significance.

II. Write notes on   (10 x 6 = 60)

1. Randomization and Blinding

2. Advantages of Screening test

3. Prevention of Non-communicable diseases

4. Sources of Epidemiological Data

5. Sensitivity, Specificity and Predictive values

6. Scales of measurement

7. ANOVA

8. Measures of Central Tendency

9. Probability Sampling Technique

10. Characteristics of Frequency distribution

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

[AHS 0921]   **SEPTEMBER 2021**   Sub. Code: 1255
                (MAY 2021 EXAM SESSION)

M.Sc. MEDICAL LABORATORY TECHNOLOGY
FIRST YEAR (2011-2012 Regulation - From 2013-2014 onwards)
PAPER V – EPIDEMIOLOGY AND BIOSTATISTICS
Q.P. Code : 281255

Time: Three hours   **Answer ALL Questions**   **Maximum: 100 Marks**

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

1. Mention the various study designs. Describe in detail how you will conduct a cohort study.
2. Appropriate situation where Correlation and Regression applied. Differentiate Correlation coefficient and Regression coefficient.

II. Write notes on   **(10 x 6 = 60)**

1. Causal association
2. Scales of Measurement
3. Diagnostic Test
4. Mortality and Morbidity Rate
5. Confidence Interval
6. Students t Test
7. Non-Probability Sampling
8. Coefficient of Variation
9. Histogram and Bardiagram
10. ROC Curve

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