

[LD 0212]

AUGUST 2013

Sub. Code: 1711

BACHELOR OF MEDICAL RECORD SCIENCE

(Candidates admitted from 2010-2011 onwards)

SECOND YEAR

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code : 801711

Time : Three hours

Maximum : 100 marks

Answer All questions.

I. Elaborate on :

(3x10 = 30)

1. Bring out the Characteristics of Normal Distribution
2. Compare different measures of Central Tendency
3. Among 100 hypertensive hospitalized patients, 50 were randomly selected for administration of a new drug and the remainder was given the usual drug. Test for association between drug and improvement using the following data. (5% level of Chi square distribution with 1 degree of freedom = 3.84).

	New drug	Usual drug
Improved	40	20
Not improved	10	30

II. Write notes on:

(8 x 5 = 40)

1. Difference between Histogram and Bar Diagram
2. How will you measure Inter quartile range?
3. Describe Binomial Distribution. Give an example.
4. Define Type I and Type II errors
5. Bring out the advantages of Systematic Sampling
6. Mention the steps involved in Test of significance
7. Describe Discharge Analysis.
8. Compare Primary and secondary data.

III. Write short answers on:

(10 x 3 = 30)

1. Define Biostatistics
2. How will you draw Frequency Curve?
3. How will you calculate Mean deviation?
4. Define Coefficient of variation
5. What are the uses of Scatter diagram?
6. What is Linear Regression?
7. It is known that 60% of cardiac patients survive the first myocardial infarct and of these survivors, 30% survive for 10 years. Of all patients with myocardial infarct what is the probability of survival for 10 years.
8. State a Null Hypothesis
9. Define Bed Occupation Rate
10. Define Neonatal mortality rate

[LE 0212]

FEBRUARY 2014

Sub. Code: 1711

BACHELOR OF MEDICAL RECORD SCIENCE

SECOND YEAR

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code : 801711

Time : Three hours

Maximum : 100 marks

Answer all questions.

I. Elaborate on:

(3x10 = 30)

1. Bring out the relative merits of measures of central tendency.
2. Describe properties and uses of Normal distribution
3. Of a random sample of 100 patients taken for a study, 50 were allocated for standard treatment and others a new treatment. Using the following data, test for association between treatment and cure. (5% value of Chi square with 1 degree of freedom = 3.84)

Treatment	Cured	Not cured
Standard	20	30
New	40	10

II. Write notes on:

(8 x 5 = 40)

1. Distinguish between Bar diagram and Histogram.
2. State Addition and multiplication theorems of probability.
3. Define Correlation coefficient and mention its interpretation.
4. List the Steps followed in research methods?
5. Define Population and Sample and give examples.
6. What are the uses of hospital statistics?
7. Define Bed Occupation Rate and write how it is calculated.
8. In a place with 20,000 populations, 250 babies were born during the year 2010. There were 150 deaths including 10 deaths of children aged less than 12 months during the same year. Calculate Birth Rate, Death Rate and infant mortality rate.

III. Write short answers on:

(10 x 3 = 30)

1. Define Biostatistics.
2. What are the uses of Cumulative Frequency Curve?
3. Mention two uses of Coefficient of variation.
4. How will you draw a Pie Diagram?
5. Define Type I error.
6. Briefly write about Daily ward census.
7. Define two Morbidity rates.
8. How will you choose Class interval?
9. What is Cluster sampling?
10. Define Quartiles.

[LF 0212]

AUGUST 2014

Sub. Code: 1711

BACHELOR OF MEDICAL RECORD SCIENCE

(Candidates admitted from 2010-2011 onwards)

SECOND YEAR

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code : 801711

Time : Three hours

Maximum : 100 marks

Answer All questions.

I. Elaborate on:

(3x10 = 30)

1. Origin and scope of Statistics and Biostatistics.
2. Calculate the standard deviation and coefficient of variation for the following data

Marks	0 -10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Number of students	11	18	15	28	24	38	22	15	12	10

3. Explain in detail of the binomial, Poisson and normal distribution

II. Write Notes on:

(8x5=40)

1. Define data and type of data?
2. Explain detail measures of dispersion and its purpose.
3. Define
 - a) Probability,
 - b) Addition and multiplicative theorem of probability.
 - c) Mutually exclusive exhaustive events.
4. Ten coins are tossed simultaneously, find the probability of getting
 - a) at least seven heads
 - b) Exactly seven heads
 - c) Almost seven heads
5. Define Cluster sampling technique.
6. A group of 5 patients treated with medicine 'A' weigh 42, 39, 48, 60 and 41 kgs: Second group of 7 patients from the same hospital treated with medicine 'B' weigh 38, 42, 56, 64, 68, 69 and 62 kgs. Do you agree with the claim that medicine 'B' increases the weight significantly?
7. Sources of hospital statistics and its uses.
8. Define
 - a) Crude Birth rate, Crude death Rate.
 - b) Neonatal mortality rate, Infant mortality rate.

III. Short answers on:

(10x3=30)

1. Difference between primary and secondary data.
2. Define coefficient of variation.
3. Calculate median for the following data. 52, 85, 68, 56, 12, 58, 14, 2, 25, 9, 86, 92
4. Define Sample space.
5. Define Sampling frame.
6. Sampling and non sampling errors.
7. Definition of Classical probability.
8. Define Pearson correlation coefficient and properties.
9. Define Chi square test for goodness of fit.
10. Definition and uses of vital statistics.

[LG 0215]

FEBRUARY 2015

Sub. Code: 1711

BACHELOR OF MEDICAL RECORD SCIENCE

(Candidates admitted from 2010-2011 onwards)

SECOND YEAR

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code : 801711

Time : Three hours

Maximum : 100 Marks

Answer All questions.

I. Elaborate on:

(3 x 10 = 30)

1. Explain the function and scope of statistics.
2. Explain in detail of the type of sampling procedure.
3. Calculate the Mean median and mode for the following data.

Income Rs (100)	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Number of Persons	6	8	10	12	7	4	3

II. Write notes on:

(8 x 5 = 40)

1. Explain Primary and Secondary data with examples.
2. What is mean by Measures of Central tendency?
3. Calculate the Standard deviation for the following 10 students marks in statistics

Students No.	1	2	3	4	5	6	7	8	9	10
Marks	43	48	65	57	31	60	37	48	78	59

4. Define
 - (i) Probability
 - (ii) Conditional probability,
5. Procedure and assumption for Testing hypothesis.
6. Uses and Limitation of Hospital statistics?
7. Explain Crude Birth and death rate with examples.
8. Importance of vital statistics?

III. Write short answers on:

(10 x 3 = 30)

1. Importance of Biostatistics
 2. Draw a histogram for the following data.
- | | | | | | | | |
|----------------|------|-------|-------|-------|-------|-------|-------|
| Weekly wages | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 |
| No. of workers | 5 | 10 | 15 | 18 | 7 | 8 | 5 |
3. Define Population and sample.
 4. Define Mode with its merits and demerits.
 5. What is Null hypothesis and alternative hypothesis?
 6. Explain Type I and Type II Error.
 7. What is Probability?
 8. Steps for calculating chi-square test.
 9. Define Sample space.
 10. Define Age specific death rate with examples.

[LH 0815]

AUGUST 2015

Sub. Code: 1711

BACHELOR OF MEDICAL RECORD SCIENCE
(Candidates admitted from 2010-2011 onwards)

SECOND YEAR

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code : 801711

Time : Three Hours

Maximum : 100 Marks

Answer All questions.

I. Elaborate on:

(3 x 10 = 30)

1. Find the co-efficient of linear correlation for the following data obtained from 5 staff:

Experience (yrs):	5	2	3	4	1
No. of Mistakes:	1	2	4	3	5

2. Explain the rates and ratios used in hospital statistics.
3. Explain the steps in research process.

II. Write notes on:

(8 x 5 = 40)

1. Uses of measures of central tendency.
2. Methods of data collection.
3. Properties of normal distribution.
4. Uses of sampling techniques.
5. Uses of regression equations.
6. Uses of vital statistics.
7. Uses of hospital statistics.
8. Purpose of clinical research.

III. Short answers on:

(10 x 3 = 30)

1. Definition of mode.
2. Definition of co-efficient of variation.
3. Definition of standard error.
4. Types of linear correlation.
5. Definition of probability.
6. Uses of regression equations.
7. Procedure of large sample test of significance.
8. Advantage of sampling.
9. Preparation of annual hospital reports.
10. Uses of chi-square test.

[LJ 0816]

AUGUST 2016

Sub. Code: 1711

B.Sc. MEDICAL RECORD SCIENCE
(Candidates admitted from 2010-2011 onwards)

SECOND YEAR

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code : 801711

Time : Three Hours

Maximum : 100 Marks

Answer All questions.

I. Elaborate on:

(3 x 10 = 30)

1. State the characteristics of Normal Distribution.
2. What are the steps followed in Test of Significance?
3. Discuss the uses and limitations of Hospital Statistics.

II. Write notes on:

(8 x 5 = 40)

1. Statistics and Biostatistics.
2. Forming of frequency distribution.
3. Calculate mean, median and mode for the following data on distance (km) from which the patients came to hospital:
6, 4, 8, 7, 5, 8, 9, 7
4. Addition and multiplication theorems of probability.
5. Role of HIM professionals in quality improvement.
6. Classification of healthy and sick.
7. Average daily census.
8. Morbidity measurements.

III. Short answers on:

(10 x 3 = 30)

1. Coefficient of variation.
2. Population and Sample.
3. Simple Random Sampling.
4. Histogram.
5. Bar chart.
6. Correlation.
7. Type 1 and Type 2 errors.
8. Chi square test.
9. Bed Occupation Rate.
10. Hospital Mortality Rate.

B.Sc. MEDICAL RECORD SCIENCE
(Candidates admitted from 2010-2011 onwards)

SECOND YEAR

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code : 801711

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain in detail of the type of sampling procedure.
2. A certain drug was administered to 500 people out of a total of 800 included in the sample to test its efficacy against typhoid, the results are given below: Find out the effectiveness of the drug against the disease (the table value of χ^2 for 1 df at 5% level of significance is 3.84)

	Typhoid	No typhoid	Total
Administering the drug	200	300	500
Without administering the drug	280	20	300
Total	480	320	800

3. Explain in sources of the health statistics.

II. Write notes on:

(8 x 5 = 40)

1. Write short notes on i) Histogram ii) Frequency polygon.
2. Define mean deviation. Also mention its merits and demerits.
3. When two dice are thrown, find the probability of getting doublets (Same number on both dice)?
4. Describe Binomial Distribution.
5. Explain Systematic Sampling.
6. Define Bed Occupation Rate and write how it is calculated?
7. Sources of hospital statistics.
8. Define Neonatal mortality rate, Infant mortality rate.

III. Short answers on:

(10 x 3 = 30)

1. Define Statistics.
2. Define coefficient of variation.
3. Define Median.
4. What is Sample?
5. What is a Pie Diagram?
6. Define Vital Statistics.
7. What is linear Regression?
8. Define Statistical Probability.
9. Classification of healthy and sick.
10. Define Specific Death Rate.

B.Sc. MEDICAL RECORD SCIENCE
(Candidates admitted from 2010-2011 onwards)

SECOND YEAR

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code : 801711

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. From the following, find out the mean and standard deviation.

X	18	19	20	21	22	23	24	25	26	27
F	3	7	11	14	18	17	13	8	5	4

2. Explain rates, ratios and percentage with formula.
3. Explain in detail of the binomial and normal distribution.

II. Write notes on:

(8 x 5 = 40)

1. Write short notes on (i) Line diagram (ii) Frequency curve.
2. Calculate the median from the following table.

Marks	0-10	10-20	20-30	30-40	40-50
Frequency	22	36	46	34	20

3. Additional and multiplication theorems of probability.
4. Define Cluster Sampling technique.
5. Use of regression equation.
6. Define Type I and Type II errors.
7. Explain Crude Birth and Death Rate.
8. Morbidity measurements.

III. Short answers on:

(10 x 3 = 30)

1. Define Biostatistics.
2. Define Standard Deviation.
3. Define Mode.
4. Population and Sample.
5. Define of probability.
6. Scatter diagram.
7. Define Chi square test.
8. State a Null Hypothesis.
9. Define Bed Occupation.
10. Define Neonatal mortality rate.

B.Sc. MEDICAL RECORD SCIENCE
(Candidates admitted from 2010-2011 onwards)

SECOND YEAR

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code : 801711

Time: Three Hours**Maximum: 100 Marks**

Answer all questions

I. Elaborate on:**(3 x 10 = 30)**

1. Calculate the mean median and mode for the following data:

Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of Students	10	18	20	26	30	28	18

2. Discuss the uses and limitations of Hospital Statistics.
3. Explain data collection procedures.

II. Write notes on:**(8 x 5 = 40)**

1. Write short notes on (i) Bar diagram (ii) pie diagram.
2. Define standard deviation. Also mention its merits and demerits.
3. Explain statistical probability.
4. Explain characteristic of Normal Distribution.
5. Explain simple random.
6. Define Type I and II errors.
7. Define and discuss age specific death rates.
8. Describe Discharge Analysis.

III. Short answers on:**(10 x 3 = 30)**

1. Define Biostatistics.
2. Define Mean.
3. What is Range?
4. Define Population.
5. What is probability?
6. What is diagram?
7. What is Null Hypothesis?
8. What is Linear Correlation?
9. Define Crude Death Rate.
10. Use of Health Statistics.

B.Sc. MEDICAL RECORD SCIENCE
(Candidates admitted from 2010-2011 onwards)

SECOND YEAR

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code : 801711

Time: Three Hours**Maximum: 100 Marks**

Answer all questions

I. Elaborate on:**(3 x 10 = 30)**

1. Discuss various methods of collecting data.
2. Write on Measures of central tendency and their relative merits.
3. Numbers of admissions on days of the week are given below. Test if the admissions are equally distributed on all days. (Chi square with 4 degrees of freedom: 5% level = 9.49 and 1% level = 13.28)

Monday	Tuesday	Wednesday	Thursday	Friday
14	10	8	6	12

II. Write notes on:**(8 x 5 = 40)**

1. Write on any two sampling techniques.
2. Calculate mean, median and mode for following data on ages of children discharged
8, 7, 11, 12, 7, 6, 12
3. Write on characteristics of Normal Distribution.
4. What are the steps in test of significance?
5. Discuss briefly about uses of daily census.
6. Write on Mortality Rates.
7. How will you calculate Bed Occupation Rate? Mention its uses.
8. What are the Roles of Health Information Manager (HIM)?

III. Short answers on:**(10 x 3 = 30)**

1. Define Biostatistics.
2. Standard deviation.
3. Laws of probability.
4. Scatter diagram.
5. Correlation.
6. Limitation of Hospital Statistics.
7. Define fetal death rate.
8. Cumulative frequency Curve.
9. Pie diagram.
10. Histogram.

B.Sc. MEDICAL RECORD SCIENCE
(Candidates admitted from 2010-2011 onwards)

SECOND YEAR

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code: 801711

Time: Three Hours**Maximum: 100 Marks**

Answer all questions

I. Elaborate on:**(3 x 10 = 30)**

1. Discuss the various methods of sampling.
2. State the steps followed in Research.
3. Test if the number of mistakes in filing the charts is associated with the Type of duty

Type of duty	Wrongly filed	Correctly filed
Day duty	15	35
Night duty	10	40

(Note: Chi square with one degree of freedom: 5% level = 3.84 and 1% level = 6.63)

II. Write notes on:**(8 x 5 = 40)**

1. How will you form a frequency distribution?
2. Calculate mean, median and mode for the following data on waiting time (in minutes) for registration: 15, 7, 13, 20, 25, 8, and 12.
3. Write on three Measures of variation.
4. Addition and multiplication laws of probability.
5. How will you calculate Correlation coefficient? What does it indicate?
6. Calculation of Bed Occupation Rate and its importance.
7. Uses of Hospital statistics.
8. Measures of Morbidity.

III. Short answers on:**(10 x 3 = 30)**

1. Two definitions of Biostatistics.
2. Quartiles.
3. Scatter diagram.
4. Histogram.
5. Bar chart.
6. Vital Statistics.
7. Type 1 and Type 2 errors.
8. t - test.
9. Average daily census.
10. Confidence Interval.

B.Sc. MEDICAL RECORD SCIENCE**SECOND YEAR****PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS****Q.P. Code: 801711****Time: Three Hours****Maximum: 100 Marks****Answer all questions****I. Elaborate on:****(3 x 10 = 30)**

1. Discuss about the measures of variation.
2. Bring out the steps followed in preparation of research proposal.
3. The 49 staff of medical record department took leave (in a year) with mean of 12.5 days and a standard deviation of 2.0 days. Can we consider that these staff took leave as much as whole institutional staff who took leave with mean of 9.5 days (in the same year)
(Note: For normal distribution 5% level is 1.96 and 1% level is 2.576)

II. Write notes on:**(8 x 5 = 40)**

1. Graphical presentation of frequency distribution.
2. Calculate measures of central tendency for the data on number of days of stay
6, 4, 3, 5, 7, 10, 8 and 7.
3. Properties of normal distribution.
4. Correlation and regression.
5. Stratified random sampling.
6. Steps in test of association.
7. Sources and uses of health statistics.
8. Define and discuss age specific death rates.

III. Short answers on:**(10 x 3 = 30)**

1. What is probability?
2. Population and sample.
3. Primary and secondary data.
4. What is range?
5. Definition of hospital Statistics.
6. Pie diagram.
7. Average daily census.
8. Infant mortality rate.
9. Scatter diagram.
10. Define crude death rate.

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

[AHS 0321]

MARCH 2021

Sub. Code: 1711

(AUGUST 2020 EXAM SESSION)

B.Sc. MEDICAL RECORD SCIENCE

SECOND YEAR (Regulations 2010-2011, 2015-2016 & 2018-2019)

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code : 801711

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Write on various measures of central tendency and discuss their relative merits.
2. Explain the steps followed in doing research.
3. Find out the usefulness of the vaccine using the following data. (Chi square with 1 degree of freedom: 5% level = 3.84, 1% level=6.63)

	Got disease	Did not get disease	Total
Vaccinated	20	40	60
Not vaccinated	20	20	40
Total	40	60	100

II. Write notes on:

(8 x 5 = 40)

1. Forming of frequency distribution.
2. Types of variables.
3. Characteristics of Normal distribution.
4. Theorems of probability.
5. Correlation and Regression.
6. Stratified and systematic sampling.
7. Measurement of morbidity.
8. Uses and Limitation of Hospital Statistics.

III. Short answers on:

(10 x 3 = 30)

1. Define statistics.
2. Interquartile range.
3. Coefficient of variation.
4. Cluster sampling.
5. Type I and Type II errors.
6. Uses of Scatter diagram.
7. Cumulative frequency curve.
8. Bed Occupancy Rate.
9. Outpatient statistics.
10. Hospital Birth rate and Death rate.

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

[AHS 0222]

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

Sub. Code: 1711

**B.Sc. MEDICAL RECORD SCIENCE
SECOND YEAR (Regulations 2010-2011, 2015-2016 & 2018-2019)
PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS
Q.P. Code: 801711**

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Discuss various methods of drawing a sample from a population.
2. Explain steps in Research Process.
3. When a sample of 100 records is examined 7 were found to be incomplete. Can we accept the hypothesis that 10% of the records are incomplete? (Normal distribution: 5% level=1.96; 1% level =2.576).

II. Write notes on:

(8 x 5 = 40)

1. Histogram, Frequency Polygon and Frequency curve.
2. Find the measures of central tendency for the following data giving ages of 10 children attended a clinic.
8,5,7,8,4,11,6,7,5,9.
3. Uses of Normal distribution.
4. When will you use Chi square test? Give examples.
5. Correlation coefficient and regression coefficient.
6. Analysis of Hospital Services.
7. Role of Health Information Manager in quality improvement programs.
8. Measures of mortality.

III. Short answers on:

(10 x 3 = 30)

1. Definition of Biostatistics.
2. Coefficient of variation.
3. Define Probability. Give examples.
4. Bar chart and Pie chart.
5. Binomial distribution.
6. Confidence Interval.
7. T-test.
8. Sources of Hospital Statistics.
9. Discharge Analysis.
10. Uses of Vital Statistics.

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

[AHS 0423]

APRIL 2023

Sub. Code: 1711

B.Sc. MEDICAL RECORD SCIENCE
SECOND YEAR (Regulations 2010-2011, 2015-2016 & 2018-2019 onwards)
PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS
Q.P. Code: 801711

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Add a note on Correlation and Regression.
2. Describe the Roles and Responsibilities of Medical Record Professional in ensuring accuracy and reliability of Statistical Data.
3. Calculate the Measures of Central Tendency for the following Ungrouped Data:

19	39	61	21	76	38	21	33
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II. Write notes on:

(8 x 5 = 40)

1. Qualitative and Quantitative Analysis.
2. Systematic Sampling method.
3. Purpose of Rates and Ratios in Hospital Statistics
4. Discharge Analysis.
5. Add a short note on Chi – Square Test.
6. Testing of Hypothesis.
7. Importance and Limitation of Hospital Statistics.
8. Distinguish between Random and Non-Random Sampling Procedure.

III. Short answers on:

(10 x 3 = 30)

1. Probability.
2. Merits and Demerits of Sampling.
3. What are Sample Space and Sample Frame?
4. Type I and Type II Errors.
5. Purpose of Clinical Research.
6. T – Test.
7. Population and Sample.
8. Calculate Median and Mode for the following:
7,10,13,7,5,11,17,19
9. Distinguish between Bar diagram and Histogram.
10. Define Standard Deviation.

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

[AHS 1123]

NOVEMBER 2023

Sub. Code: 1711

B.Sc. MEDICAL RECORD SCIENCE

SECOND YEAR (Regulations 2010-2011, 2015-2016 & 2018-2019)

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code: 801711

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Add a note on the following:
A) Binomial Distribution B) Poisson Distribution C) Normal Distribution.
2. Calculate the Measures of Central tendency for the following Ungrouped Data:

10	39	71	39	76	38	25	23
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3. Explain about Correlation and Regression.

II. Write notes on:

(8 x 5 = 40)

1. Type I and Type II Errors.
2. Addition Theorem of Probability.
3. Steps involved in Research Methods.
4. Different Types of Data.
5. Uses of Health Statistics.
6. Role of statistics in Clinical Research and Clinical Trail.
7. Different Sampling Techniques.
8. Origin and Scope of Biostatistics.

III. Short answers on:

(10 x 3 = 30)

1. Clinical Research and Clinical Trail.
2. Chi – Square Test.
3. Draw a pie Chart diagram with data's representing the Mortality ratios in three months.
4. Data Collection and Analysis in Research.
5. Coefficient of Variation.
6. Crude Death rate.
7. Standard Deviation.
8. Formula for Bed Occupancy Rate.
9. Quartiles.
10. Average Daily Census.

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

[AHS 0424]

APRIL 2024

Sub. Code: 1711

B.Sc. MEDICAL RECORD SCIENCE

SECOND YEAR (Regulations 2010-2011, 2015-2016 & 2018-2019 onwards)

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code: 801711

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on: (3 x 10 = 30)

1. Measures of Variation.
2. The test scores of 25 students are summarized in a frequency distribution below. Find the Mean, Variance and Standard Deviation for the Data.

Scores	50-59	60-69	70-79	80-89	90-99
Frequency	8	7	10	9	6

3. Explain Normal distribution and its properties.

II. Write notes on: (8 x 5 = 40)

1. Role of statistics in Clinical Research and Clinical Trials.
2. Uses of Health Statistics.
3. Various Sampling Techniques.
4. Measures of Central Tendency.
5. Addition Theorem of Probability.
6. Crude Birth Rate and Crude Death Rate.
7. Explain the procedure for doing Chi-Square Test.
8. Define Regression and its properties.

III. Short answers on: (10 x 3 = 30)

1. Literature Review in Research Process.
2. Limitations of Hospital Statistics.
3. Pearson's Correlation Coefficient.
4. Pie Chart.
5. Types of Data.
6. Morbidity Measures.
7. Write down the formula for Length of Stay and Bed Occupancy Rate.
8. Define Harmonic mean.
9. Scatter Diagram.
10. Average Daily Census.

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

[AHS 1125]

NOVEMBER 2025

Sub. Code: 1711

B.Sc. MEDICAL RECORD SCIENCE

SECOND YEAR (Regulations 2010-2011, 2015-2016 & 2018-2019 onwards)

PAPER I – BIOSTATISTICS AND HOSPITAL STATISTICS

Q.P. Code: 801711

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Explain various types of Probability distribution. Add a note on it.
2. List out the various methods that are followed in Research process.
3. Explain various Sampling techniques with suitable examples.

II. Write notes on:

(8 x 5 = 40)

1. Multiplication Theorem of Probability.
2. Calculate mean and median from the following ungrouped data relating to RBC percent in g/100 ml.

4.5	5.5	6.5	6	3.4	7.5	9.5	4
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3. Origin and scope of Biostatistics.
4. Graphical representation of Data.
5. Scales of Measurement.
6. Uses of Scatter diagram.
7. Types of Data.
8. Null Hypothesis.

III. Short answers on:

(10 x 3 = 30)

1. Confidence Interval.
2. Define Biostatistics.
3. What are the scopes of Statistics?
4. Frequency distribution.
5. Uses of Vital Statistics.
6. Formula for Bed Occupancy Rate.
7. Define Quartiles.
8. Significance of Biostatistics in Research.
9. Infant Mortality Rate.
10. Define Morbidity
