

GUJARAT UNIVERSITY
B. COM. (HONS)
SEMESTER – I (MINOR)
DESCRIPTIVE STATISTICS
COURSE CODE: DSC- M STA 113 D
CREDIT MARK DISTRIBUTION – 04
AS PER NEP 2020 (To be effective from June 2023)

Lecture 04 Hours

Tutorial – 00

Practicum – 00

COURSE OBJECTIVES

Descriptive Statistics is a fundamental course that introduces students to the basic concepts and techniques used to summarize and describe data in a meaningful way. The course aims to equip students with the necessary skills to organize, analyze, and interpret data sets efficiently.

PRE – REQUISITE

The pre-requisite for the subject of Descriptive Statistics can vary depending on the educational institution and the specific course level. However, in most cases, Descriptive Statistics is considered an introductory-level course in statistics. A strong foundation in basic mathematics is essential for understanding the concepts of Descriptive Statistics. Students should be familiar with arithmetic, algebra, and basic mathematical operations. While not always explicitly stated, having some familiarity with data and data representation is beneficial. Students should understand what data is, different types of data (qualitative and quantitative), and how data can be collected and presented. In many educational systems, Descriptive Statistics is taught at the undergraduate level, and high school-level mathematics is usually sufficient as a pre-requisite. A basic understanding of probability concepts can be helpful, although it is not always strictly required for introductory Descriptive Statistics courses. Probability concepts like understanding events, outcomes, and probabilities can provide a good foundation for statistical reasoning.

CO-REQUISITES

The learners should have basic understanding of mathematics, it supports them to extend the study. They should have knowledge of the basic of Arithmetic and Algebra to learn the concepts. They should have knowledge of using simple and scientific calculators.

COURSE OUTCOMES

- This section is a heart of statistics, it is providing the basic information relating to the statistics. Thus, the students will have proper understanding of the subject in depth. It helps the learner to evaluate the concepts of Descriptive Statistics which are usually used in regular life.
- This may support the learners for enhancing their first step towards research learning.

UNIT	CONTENT	WEIGHTAGE
1	<p>INTRODUCTION TO STATISTICS</p> <ul style="list-style-type: none"> ➤ Introduction to Statistics ➤ Definition and Scope of statistics ➤ Definition of Variable & Nature of Data <ul style="list-style-type: none"> ✓ Discrete and Continuous ✓ Quantitative and Quantitative ✓ Cross Sectional and Time Series ✓ Primary and Secondary ➤ Population and Sample ➤ Sampling (Basic Concepts only) <ul style="list-style-type: none"> ✓ Simple Random Sampling ✓ Stratified Random Sampling ✓ Systematic Sampling ✓ Cluster Sampling ➤ Measurement Scaling <ul style="list-style-type: none"> ✓ Nominal ✓ Ordinal ✓ Ratio ✓ Interval ➤ Data Visualization <ul style="list-style-type: none"> ✓ Tabulation ✓ Frequency Distribution ✓ Cumulative Frequency Distribution ✓ Graphical Presentation (Illustrations can be incorporated for understanding the above concepts but their sums are not included for examination point of view.) 	25%
2	UNIVARIATE STUDY – I	25%

	<ul style="list-style-type: none"> ➤ Introduction to Measures of Central tendency ➤ Measures of Mathematical Average <ul style="list-style-type: none"> ✓ Arithmetic Mean Combined A.M. Weighted A.M. ✓ Geometric Mean ✓ Harmonic Mean ➤ Measures of Positional Average <ul style="list-style-type: none"> ✓ Median ✓ Mode ➤ Properties, Merits and Limitation of these Measures ➤ Relation between these Measures ➤ Practical Examples based on above measures 	
3	<p>UNIVARIATE STUDY –II</p> <ul style="list-style-type: none"> ➤ Introduction to Measures of Dispersion <ul style="list-style-type: none"> ✓ Range ✓ Quartiles and Quartile Deviation ✓ Mean Deviation, ✓ Variance and Standard Deviation ➤ Relative Measure of the above measures ➤ Coefficient of Variation and its Applications ➤ Concept of Skewness and Kurtosis (without sums) ➤ Steam and Leaf Method ➤ Box Plot Technique ➤ Practical Examples based on absolute and relative measures of dispersion only 	25%
4	<p>BI-VARIATE STUDY</p> <ul style="list-style-type: none"> ➤ Introduction to Bi-variate Study ➤ Meaning of Correlation ➤ Types of Correlation ➤ Method of Scatter Diagram ➤ Karl Pearson's Product Moment Method ➤ Spearman's Rank Correlation ➤ Interpretation of Correlation Co-efficient ➤ Co-efficient of Determination ➤ Only Practical Examples with explanation of variables (Short sums are not included) ➤ Introduction to Linear Regression ➤ Regression Line of Y on X only ➤ Properties of Regression Co-efficient ➤ Only Practical Examples with explanation of variables (Short sums are not included) 	25%

Pedagogical Tools:

- Classroom Lectures and discussion
- Problem Solving
- Tutorial
- Group Discussion
- Seminar
- Assignments

MODE OF EVALUATION

Evaluation will be divided in two parts.

- **External:** Semester end Examination will be conducted by the Gujarat University of 50 Marks
- **Internal:** Internal Evaluation of 50 marks will be decided by the colleges / Institutes/ University departments as per the instruction given by the University from time to time.

FBLD (Flip Blended Learning Design Template)

- Any One Unit from the above syllabus can be discussed by the faculty through online mode.
- Online mode can be SWAYAM MOOC Course or any other suggested by the UGC or Gujarat University.

REFERENCE BOOKS:

1. "Statistics for Management" by Richard I. Levin and David S. Rubin (published by Pearson India)
2. "Statistical Methods" by S.P. Gupta (published by Sultan Chand & Sons)
3. "Business Statistics" by J.K. Sharma (published by Pearson India)
4. "Fundamentals of Applied Statistics" by S.C. Gupta and V.K. Kapoor (published by Sultan Chand & Sons)
5. "A Textbook of Business Statistics" by S.P. Gupta (published by Vikas Publishing House)
6. "Business Mathematics and Statistics" by P. Francis (published by Cengage Learning India)