

# CONTENTS

## MODULE-1

**Introduction to Statistics:** Statistical Data: Primary and Secondary data- Source of Data- Types of Classification of Data- Frequency Distribution: Discrete or Ungrouped Frequency Distribution. Grouped Frequency Distribution, Continuous Diagram, Rectangle Diagram and Pie Diagram- Choice of a suitable Diagram- Graphs: Histograms, Frequency Polygon, cumulative Frequency Curves or Orgies - Advantages and Limitations of Diagrams and Graphs.

**Tabulation:** Types of Tables- construction of one way and two way tables.

## MODULE-2

**Measure of Central Tendency:** Average: Concept, Types- mathematical Averages: Arithmetic Mean, Geometric Mean, Harmonic Mean- Position or Location Averages: Median, Mode (No grouping table method). Partition values: Quartiles, Deciles and Percentiles- Comparison of the Various Measures of central tendencies.

## MODULE-3

**Measures of Dispersion:** Range- Quartile Deviation - Mean Deviation - Standard Deviation - Variance- Coefficient of Variance - Comparison of Various measures of Dispersion.

**Skewness:** Relative measures of skewness- Karl - Pearson. Bowley, Kelly, Co-efficient of Skewness.

## MODULE-4

**Correlation and Regression:** Scatter Diagram, Karl Pearson's coefficient of Correlation (One way table only), Rank Correlation, Concurrent Deviation - Regression: Method of Least Squares.

## MODULE-5

**Time Series Analysis and Index Numbers:** Introduction, Objectives of Time series, identification of Trend- Variations in Time Series: Secular Variation, Cyclical Variation, Seasonal Variation, and irregular Variation- Methods of Estimating Trend;

**Index Numbers:** Definition; uses; simple Aggregate Method and Weighted Aggregate Method - Laspeyre's, Passche's, and CPL.

Problems on calculation on trend and seasonal variation only.

## **MODULE-6**

**Probability:** Concept and Definition - Relevance to Management Decisions- Sample Space and Events - Relevance of permutations and combinations to Probability - Rules of Probability, Random Variables and concept of Probability Distribution. Theoretical Probability. Distributions: Binomial, Poisson and Normal and problems on it. Baye's Theorem (No derivation).

## **MODULE-7**

**Samples and Sampling Distribution:** Concept and Definitions - Census and sampling - probability samples Non-Probability Samples. Relationship between sample size and errors. Simple numericals only.

## **MODULE-8**

**Testing of Hypothesis and Inferences:** Introduction to Hypothesis Testing, Procedure of testing hypothesis, Type 1 and type II Errors. Z-test, chi-square test: Analysis of Variance- One way and Two way Classification. Problems on one way annova only

## **GLOSSARY**

## **TABLES**

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