

SEMESTER-III

COURSE 6: BUSINESS STATISTICS

Theory

Credits: 4

4 hrs/week

Course Objectives:

This course is designed to enable students to:

- Understand and be able to collect and present data in the most refined and relevant manner pertaining to the research
- Enable students to understand, different measures of central tendency.
- Develop the ability to compute and interpret various measures of dispersion. Compute skewness
- Establish the relationship between two variables by using measures of relations

Course Outcomes (COs)

Upon successful completion of this course, students will be able to:

CO1: Understand the basic concepts and significance of statistics, and present data using classification, tabulation, and graphical methods.

CO2: Compute and interpret various measures of central tendency to analyze datasets effectively.

CO3: Apply measures of dispersion to evaluate variability and consistency in data.

CO4: Analyze data distribution using skewness measures and interpret asymmetry in datasets.

CO5: Evaluate relationships between variables using correlation techniques like Pearson's and Spearman's methods.

Unit I: Introduction to Statistics

Definition, Importance, Characteristics, and Limitations of Statistics – Classification and Tabulation of Data – Construction of Frequency Distribution Tables – Diagrammatic and Graphical Representation of Data (Bar Diagrams, Pie Charts, Histogram, Frequency Polygon, Ogive curves) – (Including problems)

Unit II: Measures of Central Tendency

Types of Averages – Requisites of an Ideal Average – Computation and Application of Mean, Median, Mode – Median-based Averages – Geometric Mean – Harmonic Mean – (Including problems)

Unit III: Measures of Dispersion

Concept and Properties of Dispersion – Absolute vs. Relative Measures – Types: Range, Quartile Deviation (Semi-Interquartile Range), Mean Deviation, Standard Deviation – Coefficient of Variation (Including problems)

Unit IV: Skewness

Meaning and Importance of Skewness – Absolute and Relative Measures – Karl Pearson's, Bowley's, and Kelly's Coefficients of Skewness (Including problems)

Unit V: Measures of Relation

Correlation: Concept, Need, and Uses – Types of Correlation – Karl Pearson's Correlation Coefficient – Interpretation using Probable Error – Spearman's Rank Correlation – (Including problems)

Activities:

- Organize student-led seminars and quizzes on statistical concepts.
- Collect and interpret demographic and economic statistics of local areas (village/town/district).
- Participate in government-led statistical experiments (e.g., crop-cutting surveys).
- Practice statistical functions and data visualization using MS Excel.
- Prepare questionnaires and conduct sample surveys.

References :

1. Reddy, C. R. (1994). *Business statistics*. Deep & Deep Publications.
2. Gupta, S. P. (1992). *Statistical methods*. Sultan Chand & Sons.
3. Kapoor, V. K. (2018.). *Statistics: Problems and solutions*. Sultan Chand & Sons.
4. Elhance, D. N. (2017). *Fundamentals of statistics*. [Sultan Chand & Sons].
5. Vittal, P. R. (2018). *Business statistics*. Margham Publications.