

COURSE– 5(Semester - IV)
STATISTICAL METHODS FOR ECONOMICS
NO. OF CREDITS: 4

6

LEARNING OUTCOMES FOR THE COURSE

At the end of the course, the student is expected to demonstrate the following cognitive abilities and psychomotor skills.

1. Remembers and states in a systematic way (Knowledge)
 - a. the definitions, terms and their meaning relating to statistical methods
 - b. various formulae used to measure central tendency, correlation regression and Indices
2. Explains (understanding)
 - a. Importance of statistics and its applications
 - b. The method of classification of primary data
 - c. Uses of Correlation and Regression analysis, time series and index numbers in economic analysis
3. Analyses and solves using given data and information (analysis and evaluation)
 - a. different kinds of statistical problems using various principles and formulae relating to central tendency, correlation, regression, time series and indices
 - b. to interpret data and suggest solutions to economic problems
4. Draws critical diagrams and graphs.
 - a. Histogram, Frequency Polygon and Frequency Curve
 - b. More than cumulative and less than cumulative frequency curves (Ogive)
 - c. Different types of Bar diagrams
 - d. Pie Diagram and its uses in economic analysis

D. Jothi
D. Jothi RAB, Lect in Economics

Module – 1: Nature and Definition of Statistics

Introduction to Statistics – Definition, scope, importance and limitations of Statistics –
Primary and Secondary data- Census and Sampling techniques and their merits and demerits

Module – 2:Diagrammatic Analysis

Collection of data - Schedule and questionnaire – Frequency distribution – Tabulation – diagram and graphic presentation of data – Histogram, Frequency Polygon, Cumulative Frequency Curves - Bar Diagrams and Pie Diagram

Module – 3:Measures of Central Tendency and Dispersion

Measures of Central Tendency and Dispersion - Types of averages- Arithmetic Mean, Geometric Mean, Harmonic Mean – Median – Mode – Dispersion - Range, Quartile Deviation, Mean Deviation, Standard Deviation- Coefficient of Variation.

Module – 4:Correlation and Regression

Correlation and Regression - Meaning, Definition and uses of Correlation- Types of Correlation- Karl Pearson's Correlation coefficient - Spearman's Rank Correlation- Regression Equations - utility of regression analysis – Demand forecasting.

Module – 5: Time Series and Index Numbers

Time Series and Index Numbers: Definition and components of Time Series – Measurement of Time Series – Moving Average and the Least Squares Method – Index Numbers - Concepts of Price and Quantity Relatives – Laspeyer's, Paasche's and Fisher's Ideal Index Numbers – Uses and Limitations of Index Numbers.

Reference Books:

1. B. R. Bhat, T. Srivenkataramana and K.S. MadhavaRao (1996): *Statistics: A Beginner's Text*, Vol. I, New Age International (P) Ltd.
2. Goon A.M, Gupta M.K., Das Gupta B. (1991), *Fundamentals of Statistics*, Vol. I, World Press, Calcutta.
3. M. R. Spiegel (1989): *Schaum's Outline of Theory and Problems in Statistics*,Schaum's Outline Series.
4. F. E. Croxton, D. J. Cowden and S. Kelin S (1973), *Applied General Statistics*, Prentice Hall of India. 2.
5. S.P. Gupta, *Statistical Methods* , S. Chand & Co, 1985