

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS),SKLM

DEPARTMENT OF ECONOMICS

II Year B. A. Programme (UG) Courses – Under CBCS

Semester – IV/Paper –X (Major Core)

(w.e.f 2023-24 Admitted Batch)

Statistical Methods for Economics

Course Objectives: The course intends to teach students the basics of statistics with a special focus on its day-to-day applications in economics. It sets a necessary foundation for the econometrics courses and courses in advanced micro economic theory within the Honours programme.

Course Learning Outcomes: At the end of the course, the student is expected to demonstrate the following cognitive abilities and psychomotor skills:

CO1: Understand the nature of statistics and able to collect data using questionnaire

CO2: Draws critical diagrams and graphs for presentation of data

CO3: Calculates and Analyses Averages and Dispersions using given data and information

CO4: Explains the uses of correlation and regression analysis, time series and index numbers in economic analysis.

CO5: Calculate index numbers

Unit – 1: Introduction to Statistics

Nature and Definition of Statistics, scope, importance and limitations of Statistics; Primary and Secondary data; Census and Sampling techniques and their merits and demerits; Schedule and questionnaire, Collection of data; Applications in economics.

Unit – 2: Diagrammatic Analysis

Data: Meaning and Types; Frequency distribution; Tabulation, Graphical presentation of data: Line graph, Histogram, Frequency Polygon, Cumulative Frequency Curves; Diagrammatic presentation of data: Line, Bar, Pie Diagrams; MS.Excel for Diagrammatic Analysis; Applications in economics

Unit – 3: Measures of Central Tendency and Dispersion

Averages: Arithmetic Mean, Median, Mode, Geometric Mean, Harmonic Mean; Dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation, Coefficient of Variation; MS.Excel for Measures of Central Tendency and Dispersion; Applications in economics

Unit – 4: Correlation and Regression

Correlation: Concept, Definition and Use; Types of Correlation: Karl Pearson's Correlation coefficient, Spearman's Rank Correlation; Regression: Concept, Definition, Use, Regression Equations, Demand forecasting; MS Excel for Correlation and Regression; Applications in economics.

Unit – 5: Time Series and Index Numbers

Time Series: Definition and Components; Measurement of Time Series: Moving Average and the Least Squares Method; Index Numbers: Concepts of Price and Quantity Relatives, Laspeyres's, Paasche's and Fisher's Ideal Index Numbers; Uses and Limitations of Index Numbers; MS Excel for Index Numbers; Applications in economics

References:

- a. B. R. Bhat, T. Srivenkataramana and K.S. Madhava Rao (1996): Statistics: A Beginner's Text, Vol. I, New Age International (P) Ltd
- b. Goon A.M, Gupta M.K., Das Gupta B. (1991), Fundamentals of Statistics, Vol. I, World Press, Calcutta.
- c. M. R. Spiegel (1989): Schaum's Outline of Theory and Problems in Statistics, Schaum's Outline Series.
- d. S.P. Gupta, Statistical Methods, S. Chand & Co, 1985
- e. Telugu Academy Book, Parimanathmakapaddathulu (For B.A.).

Suggested Activities:

Unit-1: Assignments of the application of various statistical methods

Unit-2: Student Seminar on themes requiring usage of tables, diagrams, statistical analysis and interpretation

Unit-3: Group project work for collection of data on locally relevant economic problems

Unit-4: Exercise on calculation of correlation and regression using Excel.

Unit-5: Chart Preparation on formulas of different index number.