

EC454 (C) STATISTICAL TECHNIQUES FOR ECONOMICS ANALYSIS

➤ Learning Objectives and Outcomes:

- Aim of 'Statistical techniques for economics analysis' paper is to impart basic knowledge and skill of statics required for economic analysis.
- By studying this paper the students are expected to learn basic statistics - Data collection and management, central tendency measures, dispersion measures, simple correlation and regression, Elements of probability theory, Time series analysis, Concepts and methods of Estimation, and Statistical Software

Module I: Statistical Methods - 1:

Introduction-Nature and Scope of Statistics-Uses and Limitations in Economic Analysis- Collection of data- Presentation-Tabulation-Frequencies Distribution-Visual Aids-Diagramatic and Graphic Representation.

Analysis of data - Measures of central tendency – Mean, Median, Mode, Geometric Mean and Harmonic Mean. Measures of Dispersion – Range, Quartile Deviation, Mean Deviation, Standard Deviation and Co-efficient of Variation.

Module II: Statistical Methods - 2:

Simple Correlation – Simple – Co-efficient of Correlation – Karl Pearson and Rank Correlation – Partial and Multiple Correlation Analysis - Regression Analysis – Estimation of Regression line in a bivariate distribution - Multivariate analysis – least squares method, interpretation of regression of coefficients.

Module III: Statistical Methods - 3:

Elements of probability theory-Total Probability and Conditional Probability-Mathematical Expectation-Simple Models of Frequency Distribution-Normal Binomia and Poison Distributions and their Applications.

Module IV: Statistical Methods - 4:

Time series analysis - Components of time series - Trend analysis-curve fitting - Index Numbers - Simple and weighted index numbers - Fisher's Index Numbers - Cost of living Index Numbers.

Concepts and methods of Estimation - Concept of Sampling-Random and Non Random sampling - Stratified and cluster sampling - probability proportional to size - Multi stage random sampling and their applications - Sampling from normal distribution - Desirable

properties of an estimator - Point and Interval Estimation - Confidence limits - Hypothesis testing - Type I and Type II errors.

Module V: Statistical Software:

Introduction to statistical software.

References:

Chou.Y. (1975), Statistical Analysis, Holt, Reinhart and Winston, New York.

Elhance, D.N. (1987), Fundamental methods of Statistics, Kitab Mahal, Allahabad.

Gupta, S.C. (1993), Fundamentals of Applied Statistics, S. Chand & Sons, New Delhi.

Speigal, M.R. (1992), Theory and Problems of Statistics, McGraw Hill Book Co, London.

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