2107

BA SECOND YEAR
Economics

Paper II- Quantitative Techniques

Objective: The main objective of this paper is to give the knowledge of the techniques of mathematical and statistical analysis. It deals with those tools which are frequently used in Economics.

Unit I

Statistics – Definition, Importance, Scope and Limitations of Statistics, Primary and Secondary Data, Methods of Collecting Primary Data, Secondary Data, Classification and Tabulation of Data, Presentation of Data – Diagrams and Graphs.

Unit II

Measures of Central Tendency : Mean, Median, Mode, Geometric Mean and Harmonic Mean.

Measures of Dispersion – Range, Mean Deviation, Standard Deviation, Coefficient of Variation, Quartile Deviation, Skewness.

Unit III

Correlation- Meaning, Causation & Correlation, Karl Pearson's Coefficient of Correlation, Spearman's Rank Correlation, Probable Error.

Simple Linear Regression- Introduction, Lines of Regression, Estimation of Regression Coefficient and Regression Lines.

Unit IV

Time Series – Introduction, Components of Time Series, Measurement of Trends – Methods of Moving Averages and Least Squares.

Index Numbers – Meaning, Significance and Types of Index Numbers, Methods of Constructing Index Numbers- Simple Price Relative Methods and Aggregative Methods.

Unit V

Elementary Algebra

Equations- Linear, Quadratic and Exponential, Functional relationship in Economics and use of graphs. Solution of Simultaneous Equations. Arithmetic and Geometric Progression, Logarithm and Antilogarithm.

Matrix and Determinant: Concept, Types and Basic Properties.

Basic Reading List

1. Agarwal, D.R. (2015). Elementary Mathematics and Statistics for Economists, Vrinda Publication (P) Ltd.
2. Agrawal, N.P. (2015). Quantitative Techniques, RBD Publishing House, Jaipur (Hindi and English Version).
3. Chiang, A.C. (1986). Fundamental Methods of Mathematical Economics (3rd Edition), McGraw Hill, New Delhi.
4. Gupta, S.P. - Statistical Methods, S. Chand and Sons, New Delhi.
5. Madnani, G.M.K.- Arthshastra Me Ganit Ke Prayog (Hindi Version).
6. Mehta & Madnani (2008). Mathematics for Economists, Sultan Chand and Company, New Delhi.
7. Nagar, A.L. and Das, R.K. (1993). Basic Statistics, Oxford University Press, New Delhi. (Hindi Version).
8. Nagar, K. (2002). Fundamentals of Statistics, Meenakshi Publications, Meerut (Hindi and English Version).
9. Nathuramka L.N. (2018). -Arthshastra Me Ganit Ke Prayog, College Book House, Jaipur (Hindi Version).
10. Sing S.,O.P. Singh and Y.K. Singh- Arthshastra Ganit evam Prarambhik Sankhyiki, Radha Publications, New Delhi (Hindi Version).
11. Sydsaeter K.and P. Hammond (2002). Mathematics for Economic Analysis, Pearson Educational Asia, Delhi