

Course No. ECONA203
Course title: Statistical Methods – I
Nature of Course: SEC – 1
Number of credits: 4
Number of Lectures (L): Practical (P): Tutorial (T): 44:0:16

Course Description

This course introduces the student to collection and presentation of data. It also discusses how data can be summarized and analysed for drawing statistical inferences. The students will be introduced to important data sources that are available and will also be trained in the use of free statistical software to analyse data.

Course Outline

Unit	Title	Credits	
		L	T
I.	INTRODUCTION TO STATISTICS Statistics: Meaning, Scope, Nature, Function, Importance and Limitations of statistics. Types of Data: Primary and Secondary data, Univariate and Bivariate data, qualitative and quantitative data; nominal and ordinal data, Cross-section and Time Series. Sources of data: Primary and Secondary data. Diagrammatic and Graphic Presentation of Data	12	4
II.	CENSUS AND SAMPLE Collection of Statistical Data: Census and sample Method, Merits and demerits of census and sampling. Some basic sampling methods: Probability and Non Probability Sampling Methods with merits and demerits. Essentials of sampling, Methods of Selecting Sample, Sampling and Non- Sampling Errors.	11	4
III.	MEASURES OF CENTRAL TENDENCY Objectives of Averaging, Requisites of a Good Average. Arithmetic Mean, Median, Mode, Geometric Mean and Harmonic Mean. Quartiles, Deciles, Percentiles and Limitations of Averages.	10	4
IV.	DISPERSION Meaning and significance of dispersion. Measures of dispersion: Range, Quartile Deviation, Mean Deviation, Standard Deviation, Coefficient of Variation, Variance, Absolute and Relative measures of variation - Lorenz Curve.	11	4

Suggested Readings

1. Gupta S.P., Statistical Methods, Sultan Chand & Sons, New Delhi.
2. Elhance & Elhance, Fundamentals of Statistics, Kitab Mahal, New Delhi.
3. Lind D.A., W.G. Marchal and S.A Wathen., Statistical Techniques in Business and Economics, Tata Mc Graw Hill, New Delhi.
4. Goon A.M., Gupta M.K., Das Gupta.B. (1999): Fundamentals of Statistics, Vol.II, World Press, Calcutta.
5. Spiegel, M. R. (1967): Theory & Problems of Statistics, Schaum's Publishing Series.
6. Croxton F.E, Cowden D.J and Kelin S (1973): Applied General Statistics, Prentice Hall of India.

Course No. ECONA205
Course title: Statistical Methods – II
Nature of Course: SEC – 3
Number of credits: 4
Number of Lectures (L): Practical (P): Tutorial (T): 44:0:16

Course Description

This course introduces the student to collection and presentation of data. It also discusses how data can be summarized and analysed for drawing statistical inferences. The students will be introduced to important data sources that are available and will also be trained in the use of free statistical software to analyse data.

Course Outline

Unit	Title	Credits	
		L	T
I.	CORRELATION ANALYSIS Meaning, Significance of the Study of Correlation. Correlation and Causation. Types of Correlation: Positive, Negative, Partial, Multiple, Linear and Non-Linear. Methods of Studying Correlation: Scatter Diagram Method, Graphic Method, Karl Pearson's Coefficient of Correlation, Spearman's Rank Correlation. Properties and Interpretation of Correlation Coefficient.	12	4
II.	REGRESSION ANALYSIS Meaning - Difference between Correlation and Regression - Regression Lines - Regression Equations of X on Y and Y on X Only - Regression Coefficients. Elementary application of regression in demand, supply, consumption and investment functions.	11	4
III.	ANALYSIS OF TIME SERIES Meaning and Importance of Time Series. Components of Time series, Measurement of Trend: Graphic Method, Semi, Average method, Moving Average Method, Least Square Method. Applications in Economics.	10	4
IV.	INDEX NUMBERS Meaning, Characteristics, Importance and Uses, Classification. Types of Index Numbers: Price, Quantity and Value Index Numbers. Special Purpose Indices: Cost of Living Index, Wholesale Price Index, Consumer Price Index. Problems in construction of Index Numbers.	11	4
1. Gupta S.P., Statistical Methods, Sultan Chand & Sons, New Delhi. 2. Elhance & Elhance, Fundamentals of Statistics, Kitab Mahal, New Delhi. 3. Lind D.A., W.G. Marchal and S.A Wathen., Statistical Techniques in Business and Economics, Tata Mc Graw Hill, New Delhi. 4. Goon A.M., Gupta M.K., Das Gupta.B. (1999): Fundamentals of Statistics, Vol.II, World Press, Calcutta. 5. Meyer P.L (1970): Introductory Probability and Statistical applications. Addison Wesley. 6. Spiegel, M. R. (1967): Theory & Problems of Statistics, Schaum's Publishing Series. 7. Croxton F.E, Cowden D.J and Kelin S (1973): Applied General Statistics, Prentice Hall of India.			