

Unit II

Wishart Distribution: Introduction - Characteristic function and properties of Wishart Distribution. Generalized T-Square Statistic: Introduction – Derivation of the Generalized T-Square Statistic (Hotelling T Square) distribution – uses – applications. Hotelling T Square and Likelihood Ratio Tests.

Unit III

Multiple Linear Regression: Introduction – Classical Linear Regression Model – Least Square Estimators - Inferences about the Regression Model – Inferences from the Estimated Regression Function – Model Checking and Other Aspects of Regression – Multivariate Multiple Regression.

Unit IV

Principal Components: Objectives – Population Principal Components – Extraction of Principal Components. Factor Analysis: Introduction – Model Description (The Orthogonal Factor Model) – Methods of estimation – Factor rotation - Factor Scores – Perspectives and a strategy for Factor Analysis.

Unit V

Discriminant Analysis: Objectives and assumptions - Fisher's Discriminant Function - Problem of Classification with Two or More Populations. Cluster Analysis: Objectives – Assumptions - Research design – Formation of clusters – Clustering algorithm.

Books Recommended

1. Anderson T.W, (2011): An Introduction to Multivariate Statistical Analysis: Wiley India Pvt. Ltd, New Delhi (Third Edition)
2. Kshirsagar, A. M. (1983): Multivariate Analysis, Marcel Dekker
3. Morrison, D.F. (1990): Multivariate Statistical Methods, McGraw Hill Co.

4. Rao, C. R. (1995): Linear Statistical Inference and its Applications, Wiley Eastern
5. Timm, N. H. (2002): Applied Multivariate Analysis, Springer, New York
6. Giri, N.C.(1977): Multivariate statistical inference, Academic Press