

ST3 C14: MULTIVARIATE ANALYSIS

UNIT I

Likelihood ratio test, Hotelling's T^2 (one and two samples), Mahalanobi's D^2 statistic, Fisher-Behren problem, MANOVA (one way and two-way)

UNIT II

Dimension reduction methods, principal components, canonical correlation and variates, , profile analysis, factor analysis.

UNIT III

Classification problem, discriminant analysis, Bayes' procedures, Fishers approach, more than two groups, selection of variables. testing independence of sets of variates, tests for equality of dispersion matrices, sphericity test.

UNIT IV

Cluster analysis, proximity data, hierarchical clustering, non-hierarchical clustering methods.

Text Books:

1. Anderson T. W. (1984) An Introduction to Multivariate Statistical Analysis (2nd ed.) John Wiley.
2. Johnson R.A. and Wichern D.W. (1990) Applied Multivariate Statistical Analysis. Pearson education.

Reference Books:

1. Rencher, A. C. (1995) Methods of Multivariate Analysis. John Wiley.
2. Seber G. F. (1983) Multivariate Observations, John Wiley.
3. Rao C. R. (1973) Linear Statistical Inference and Its Applications (2nd Ed.), Wiley Eastern Ltd.