

M.Phil. STATISTICS DEGREE EXAMINATION, EVEN SEMESTER 2021
I Year I Semester
ADVANCED MULTIVARIATE

Max.marks :75

Answer any **FIVE** questions ($5 \times 15 = 75$) Marks

1. (a) Explain the importance of cluster analysis and describe briefly the non-hierarchical methods of clustering.
(b) What is multi-dimensional scaling? Explain.
2. (a) Write down any four similarity measures used in cluster analysis.
(b) Explain K-Means clustering.
3. Derive Hotelling's T^2 statistic multivariate analysis.
4. State and prove Fuzzy c mean algorithms.
5. Explain briefly about the multiclass support vector machine.
6. Discuss in detail about correspondence analysis.
7. (a) Explain the principal component method of estimating L in the factor analysis model.
(b) Explain principal factor method and maximum likelihood method of estimation for estimating factor loadings.
8. Explain the method of extracting canonical correlations and canonical variables. Also explain how the theory of canonical correlation is helpful in the analysis of multivariate data.