MG226: Advanced Analytics Syllabus 2021 : CM's Part

25/02/21: Overview of the course. Results on Random Vectors. Introduction to the properties Multivariate Normal Distribution.

04/03/21: Geometry of the Multivariate Normal Distribution (MVN). Sampling Distribution of the Sample Mean and Dispersion. Wishart Distribution.

11/03/21: Inference about the MVN Mean Vector. Mahalanobis Distance. Hotelling's T^2 . Application to the comparison of MVN means. Illustration in R.

18/03/21: Analysis of Variance (ANOVA) concepts. Basic Experimental Designs: CRD, RCBD and Full Factorial Designs.

25/03/21: Multi-Factor ANOVA. Illustration in R. Introduction to Multivariate ANOVA - MANOVA.

01/04/21: Principal Component Analysis (PCA).

08/04/21: An application of PCA to Hierarchical Cluster Analysis.

15/04/21: Factor Analysis (FA). Illustration of Cluster refinements using FA.

Suggested Text: Richard A. Johnson & Dean W. Wichern : Applied Multivariate Statistical Analysis. Pearson Education.