Subject Code: DA 304T **SSMD Lesson plan** **Semseter-06**

S.No.	Topics	Page Number
	UNIT-I	
1.	Statistics: Introduction and Descriptive Statistics-Mean, median, mode , variance and standard deviation	Fundamentals of Mathematical Statistics: S.C.Gupta and V.K.Kapoor Page No.2.3-2.44,
2.	Data Visualization, Introduction to Probability distributions	Fundamentals of Mathematical Statistics: S.C.Gupta and V.K.Kapoor Page No.:3.1- 3.70 (reference for the topics) and Page No.:4.1 to 4.20 , Page No.: 5.1 to 5.60 and Page No. 8.1 to 8.56, Page No.9.3 to 9.21
3.	Hypothesis testing, Linear Algebra and Population Statistics	Fundamentals of Mathematical Statistics: S.C.Gupta and V.K.Kapoor Page No.: 18.1 to 18.2.7 , 18.3 and 18.6.1 to 18.6.7 Linear Algebra: Friedberg, Arnold J. Insel, Lawrence E.Spence.
4.	Mathematical and probability theory, Sampling distributions and Statistical inference, Quantitative analysis	Fundamentals of Mathematical Statistics: S.C.Gupta and V.K.Kapoor Page No.:18.2.1 to 18.2.7 Statistics and Probability with applications for Engineers and Scientists using MINITAB, R and JMP: Bhisham, C. Gupta et ; Irwin,G and Kalanka,P.J: Wiley Page No.21-22
	UNIT-II	
5.	Statistical Modelling: Linear models, regression analysis	Fundamentals of Mathematical Statistics: S.C.Gupta and V.K.Kapoor

		Page No.: 11.1 to 11.2.5
6.	Analysis of variance, applications in various fields	Probability and Statistics for Engineering and the Sciences:Jay Devore Page No.391-430
7.	Gauss-Markov theorem, geometry of least squares	Statistics and Probability with applications for Engineers and Scientists using MINITAB, R and JMP: Bhisham, C. Gupta et ; Irwin,G and Kalanka,P.J: Wiley Page No.693-706
8.	Subspace of formulation of linear models, Orthogonal Projections	Linear Algebra: Friedberg, Arnold J. Insel, Lawrence E.Spence
9.	Regression models	Probability and Statistics for Engineering and the Sciences:Jay Devore Page No.468-490
10	Factorial experiments, analysis of covariance and model formulae	Probability and Statistics for Engineering and the Sciences:Jay Devore Page No.430-432 and Page no.451-467 Statistics and Probability with applications for Engineers and Scientists using MINITAB, R and JMP: Bhisham, C. Gupta et ; Irwin,G and Kalanka,P.J: Wiley Page No.847-882
11	Regression diagnostics, residuals, influence diagnostics	Statistics and Probability with applications for Engineers and Scientists using MINITAB, R and JMP: Bhisham, C. Gupta et ; Irwin,G and Kalanka,P.J: Wiley Page No.665, 734
12	Transformations, Box-Cox models, model selection and model building strategies	Fundamentals of Mathematical Statistics: S.C.Gupta and V.K.Kapoor
13	Logistic regression models, Poisson regression models	Statistics and Probability with applications for Engineers and Scientists using MINITAB, R and JMP: Bhisham, C. Gupta et ; Irwin,G and Kalanka,P.J:

		Wiley Page No.740
	UNIT-III	
14	Data Analytics: Describe classes of open and closed set. Apply the concept of compactness	Metric Space : Vasudeva Page No.:64
15	Describe metric space-metric in Rn	Metric Space : Vasudeva Page No.:27 to Page No.: 57
16	Use the concept of Cauchy sequence, completeness, Compactness and Connectedness to solve the problems	Metric Space : Vasudeva Page No.:44 and Page No.54
	UNIT-IV	
17	Advanced concepts in Data Analytics: Describe vector space, subspace, Independence of vectors	Linear Algebra: Friedberg, Arnold J. Insel, Lawrence E.Spence,; Page No.:1 to Page No.:34
18	Basis and dimension. Describe Eigen values, Eigen vectors and related results	Linear Algebra: Friedberg, Arnold J. Insel, Lawrence E.Spence,; Page No.:1 to Page No.:35 and Page No.: 214