



SSMD Lesson plan

Subject Code: DA 304T

Semseter-06

| S. No. | Topics | Reference/ Text Books | No. Of Hours |
|----------------|--|--|--------------|
| 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 |
| 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 | 1 |
| 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 |
| 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 | 2 |
| UNIT-II | | | |

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| 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 | 1 |
| 6. | Analysis of variance, applications in various fields | Fundamentals of Mathematical Statistics: S.C.Gupta and V.K.Kapoor | 1 |
| 7. | Gauss-Markov theorem, geometry of least squares | Fundamentals of Mathematical Statistics: S.C.Gupta and V.K.Kapoor | 1 |
| 8. | Subspace of formulation of linear models | Linear Algebra: Friedberg, Arnold J. Insel, Lawrence E.Spence | 1 |
| 9. | Orthogonal projections, regression models | Fundamentals of Mathematical Statistics: S.C.Gupta and V.K.Kapoor | 1 |
| 10 | Factorial experiments, analysis of covariance and model formulae | Fundamentals of Mathematical Statistics: S.C.Gupta and V.K.Kapoor | 1 |
| 11 | Regression diagnostics, residuals, influence diagnostics | Fundamentals of Mathematical Statistics: S.C.Gupta and V.K.Kapoor | 1 |
| 12 | Transformations, Box-Cox models, model selection and model building strategies | Fundamentals of Mathematical Statistics: S.C.Gupta and V.K.Kapoor | 1 |
| 13 | Logistic regression models, Poisson regression models | Fundamentals of Mathematical Statistics: S.C.Gupta and V.K.Kapoor | 2 |
| UNIT-III | | | |

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| 14 | Data Analytics: Describe classes of open and closed set. Apply the concept of compactness | Metric Space : Vasudeva Page No.:64 | 2 |
| 15 | Describe metric space-metric in R^n | Metric Space : Vasudeva Page No.:27 to Page No.: 57 | 1 |
| 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 | 2 |
| 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 | 2 |
| 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 | 3 |