Paper Code: PS03CSTA01	Total Credit: 4
Title Of Paper: Design and Analysis of Experiments	

Unit	Description in Detail	Weightage (%)
I	**Introduction** to designed experiments, General block designs and its information matrix, its criteria for connectedness, balancedness and orthogonality. Intra block analysis and recovery of inter block information for BIBD and PBIBD (2).	25%
II	**Galois field, MOLS and Finite Geometries** for construction of BIBDs, derived BIBDs. Properties of BIBDs. Construction of You den square design and Row Column design and their analysis	25%
III	**Factorial Experiments** 2-level and 3-level factorial experiments in randomized blocks. Confounding and fractional factorial experiments.	25%
IV	**Application Areas** Missing plot technique – general theory and application to BIBD. Split plot and split block experiments, Analysis of covariance in general Markov model, Response Surface experimental designs and ANOVA.	25%

Basic Text & Reference Books:-

- Oscar Kempthorne. Design & Analysis Of Experiment.
- Petersen. Design & Analysis Of Experiment
- Cochran, Cox. Experimental Designs
- Daryl S. Paulson. Applied Statistical Designs For Researcher
- Nigam, Puri, Gupta. Characterisations Analysis Of Block Designs
- Aloke Dey. Theory Of Block Designs
- Dean Voss. Design & Analysis Of Experiment
- K Hinkelmann Kempthorne. Design And Analysis Of Experiments
- G E. P. Box, N R. Draper. Response Surfaces, Mixtures, Ridge Analyses
- Max Morris. Design Of Expts An Intro On Linear Models
- D. G. Kabe, S. M. Shah. Design and Analysis of Expts (Queen's Uni.)
- D. D. Joshi. Linear Estimation And Design Of Ex
- M. N. Das N. C. Giri. Design And Analysis Of Experiments
- N. Giri. Analysis Of Variance
- Douglas C. Montgomery. Design And Analysis Of Experiments
- M. C. Chakrabarti. Mathematics Of Design And Analysis Of Experiments