

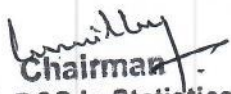
Hard Core	STP 456:Practical III: Practicals based STH 452 and STH 453	No. of credits: 3
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Course Outcomes:

- CO1: To learn parametric, non-parametric and testing (simple, as well as, composite procedures.
- CO2: To learn a strong theoretical background to develop test procedures for any type of populations
- CO3: To demonstrate computational skills to implement various statistical inferential approaches.
- CO4: Implement the multivariate analysis techniques with statistical software such as R in a manner that the methodology adopted is motivated by appropriate statistical theory.
- CO5: To familiarize the students with the stochastic processes.
- CO6: To familiarize the students with the applications of stochastic methods in practical situations.

Practicals on STH 452: Design and Analysis of Experiments

- 1) Linear estimation: Estimability of linear parametric function, Least squares estimators.
- 2) Testing Linear hypothesis. Analysis of one way and two way classified data.
- 3) Incomplete Block Design-1: computations of Incidence matrix, C-matrix, Q-matrix, estimability of contrasts, Determining estimable and non estimable treatment contrasts. Best estimates and testing linear restrictions
- 4) Incomplete Block Design-2 : Intra block Analysis.
- 5) Balanced Incomplete block design (BIBD): Verifying the relationship between the parameters of the design, computation of C-matrix of the design, best estimates.
- 6) BIBD: Intra block Analysis
- 7) Analysis of Youden square Design.
- 8) Analysis of covariance ANCOVA.
- 9) Analysis of $2^3/2^4$ Factorial Experiment : Yates table, estimation of main effect and interaction effect , testing the significance of factorial effects.
- 10) Analysis of 3^2 Factorial Experiment.
- 11) Complete Confounding $2^3/2^4$ and $3^2/3^3$ Factorial Experiment.
- 12) 2^3 Partial Confounding
- 13) 3^2 Partial Confounding
- 14) Missing Plot Techniques


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Practicals on STH 453: Stochastic Processes

1. Sample path of a Markov Chain.
2. Stationary probabilities of a Markov Chain.
3. Poisson process Homogeneous and non-homogeneous.
4. Weiner process, hitting time.
5. Branching process

