

ST.JOSEPH'S COLLEGE FOR WOMEN (AUTONOMOUS),VISAKHAPATNAM
V SEMESTER STATISTICS TIME: 4HRS/WEEK
ST 5201(3) SAMPLING TECHNIQUES AND DESIGN OF EXPERMENTS MAX.MARKS:100
SYLLABUS

Unit-I

Sampling Theory: Principle steps in a sample survey, Censes versus sample survey, sampling and Non-sampling errors. Types of sampling - subjective, probability and mixed sampling methods.

Unit-II

Simple Random Sampling: Meaning of Samples and methods to draw, estimation of population mean, variances in SRSWR& SRSWOR.

Unit-III

Stratified random sampling: Proportional and optimum allocation of sample sizes in stratification. Variances in these methods. Systematic sampling: Systematic sampling when $N = nk$ comparison of their relative efficiencies. Advantages and Disadvantages of above methods of sampling.

Unit-IV

Analysis of Variance: One way with equal and unequal classifications and two way classifications.

Unit – V

Design of Experiments: Principles of experimentation in Designs, analysis of completely randomised design (CRD), and Randomised block design (RBD) and Latin square design (LSD) including one missing observation. Efficiency of these designs and concept of factorial Experiment.

Text Books:

1. Telugu Academy BA/BSc III year paper - III Statistics - applied statistics - Telugu academy by prof.K.Srinivasa Rao, Dr D.Giri. Dr A.Anand, Dr V.Papaiah Sastry.
2. K.V.S. Sarma: Statistics Made Simple: Do it yourself on PC. PHI.

Reference Books:

1. Fundamentals of applied statistics: VK Kapoor and SC Gupta.
2. Indian Official statistics - MR Saluja.
3. Anuvarthita Sankyaka Sastram - Telugu Academy.

Practicals Semester – V

Conduct any 6 (Ms-exel is compulsory)

1. Estimation of population Mean, variance by SRSWOR.
2. Estimation of population Mean, variance by SRSWR.
3. Comparison of proportional, optimum allocations with SRSWOR.
4. Systematic Sampling.
5. ANOVA-CRD.
6. ANOVA - RBD with one missing observation.
7. Ms ANOVA - LSD with one missing observation.