

MANGALORE UNIVERSITY
Department of Statistics
MSc Statistics

Hard Core	STP405: Practical I: Based on STH404	No. of Credits: 3
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Course Outcomes:

- CO1: Learn to determine sample size in various sampling schemes
- CO2: Able to apply the unequal probability sampling such as PPSWR and PPSWOR for real life situations.
- CO3: Learn to select samples and estimate population parameters using cluster sampling and multistage sampling
- CO4: Apply the regression and ratio method estimation for various sampling scheme
- CO5: Learn to select samples using Two Phase sampling scheme and estimate the population parameter.

1. Determination of sample size.
2. PPSWR sample selection by (i) Cumulative Total method and (ii) Lahiri's method.
3. PPSWR sampling: Hansen-Hurwitz estimator and its sampling variance and Comparison of PPSWR sampling with SRSWR sampling based on PPS sample.
4. PPSWOR sampling: Horvitz-Thompson sampling strategy.
5. PPSWOR sampling: Sen- Midzuno sampling strategy.
6. PPSWOR sampling: Desraj's ordered estimator and Murthy's unordered estimator and their sampling variance and PPSWOR sampling : Rao-Hartley-Cochran strategy.
7. Cluster sampling with clusters of equal size.
8. Cluster sampling with clusters of unequal size.
9. Two stage sampling with SRSWOR at both the stages.
10. Two stage sampling with SRSWR at the first stage and SRSWOR at the second stage.
11. Ratio Method of estimation.
12. Regression method of estimation.
13. Two Phase sampling.
14. Two stage sampling with PPSWR at the first stage and SRSWOR at the second stage.