

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)

Chromepet, Chennai - 600 044.

B.Sc. Statistics - END SEMESTER EXAMINATIONS APRIL - 2024

SEMESTER - VI

20USTCT6013 - Sampling Methods

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Demonstrate Pilot Survey.
2. Construct the principal advantages of Stratified Random Sampling.
3. Compare Systematic Sampling VS Stratified Random Sampling.
4. Compute the variance of the Ratio Estimator.
5. Explain Simple Random Sampling.
6. Prioritize allocation of Sample size.
7. List the principles of Sample Survey.
8. Prove that In SRSWOR Sample Mean is a unbiased estimate of Population Mean.

Section C

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Illustrate Sampling and Non - Sampling Errors.
10. Test $Var(\bar{y}_n)_R \geq Var(\bar{y}_{st})_P$.
11. If the population consists of a linear trend,
 $Y_i = i; i = 1, 2, \dots, k$, then prove that $Var(\bar{y}_{st}) \leq Var(\bar{y}_{sys}) \leq Var(\bar{y}_n)_R$
12. Compare Cumulative and Lahiri Method.
13. Prove that In SRSWOR Sample Mean Square is an unbiased estimate of Population Mean Square.
