

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.

M.Sc. END SEMESTER EXAMINATION APRIL/NOV - 2021

SEMESTER - III

20PBSCT3008 - Sample Survey Designs

Total Duration : 3 Hrs	Total Marks : 75
MCQ : 30 Mins	MCQ : 15
Descriptive : 2 Hrs.30 Mins	Descriptive : 60

Section B

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

1. Explain Horwitz - Thompson estimator.
2. Describe Stratified Sampling method.
3. Give an example of a unbiased ratio estimator.
4. Explain estimation of mean per element and its variance in cluster sampling.
5. What are the sources of non - sampling errors?
6. Describe Jackknife ratio estimator.
7. What is Multistage Sampling?
8. Explain Warner's randomized response model.

Section C

Part A

Answer any **TWO** questions ($2 \times 10 = 20$ Marks)

9. Derive the SRSWOR and SRSWR for Sample Proportion.
10. Ascertain the bias and mean square error under SRSWOR for Regression estimator.
11. Evaluate Two - Stage sampling with equal size and also find the variance of the estimated mean under SRS.
12. Examine Snowball sampling method and enumerate its advantages and disadvantages.

Part B

Compulsory question ($1 \times 10 = 10$ Marks)

13. Compare stratified sampling with simple random sampling and systematic sampling.