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 EXAMINATIONS NOVEMBER - 2022
SEMESTER - III
20PBSCT3008 - Sample Survey Designs

Total Duration : 2 Hrs 30 Mins.   **Total Marks : 60**

Section A

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

1. Explain about Probability proportional to size sampling without replacement (PPSWOR).

2. Describe about Product estimator and Regression estimator.

3. Compute the formula for Optimum cluster size.

4. Explain about Simmons randomized response model.

5. Describe about Stratified sampling with example.

6. Classify unbiased ratio type estimator and almost unbiased ratio estimator.

7. Explain about Two stage sampling-units of equal size.

8. Organize about Sources of non-sampling errors with example.

Section B

Part A

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

9. Compute the sampling variance of the sample mean under SRSWOR.

10. Classify the comparison between simple random sampling and systematic sampling.

11. Determine the bias and mean square error of Ratio estimator under SRSWOR.

12. Predict the Estimate of mean per element and its variance in cluster sampling.

Part B

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

13. Distinguish between Adaptive sampling and Snowball sampling with example.

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