

15153

M.Sc. DEGREE EXAMINATION, OCTOBER/NOVEMBER 2019.

FIRST SEMESTER

Statistics

Paper III — SAMPLING

Time : Three hours

Maximum : 75 marks

(No additional sheet will be supplied)

PART A — (5 × 3 = 15 marks)

Answer any FIVE questions.

Each question carries 3 marks.

Each answer should not exceed 1 page.

1. Explain varying Probability sampling.
2. Explain systematic sampling.
3. Explain two stage PPS sampling.
4. Explain cluster sampling.
5. Explain regression estimation.
6. Define ratio estimator in stratified random sampling.
7. Explain double sampling.
8. Explain about non- sampling errors.

PART B — (4 × 15 = 60 marks)

Answer ALL questions.

Each question carries 15 marks.

Each answer should not exceed 6 pages.

9. Define Yates and Ground's estimator. Find its mean and variance.

Or

10. Explain systematic sampling and hence obtain population mean and its variance.

11. Explain two stage sampling with equal first stage units.

Or

12. Explain determination of Optimal cluster size.

13. Derive the variance of regression estimator for population total.

Or

14. Compare ratio estimator with regression estimator.

15. Explain double sampling for regression estimation.

Or

16. Explain Hansen and Horvitz technique.

