B.Sc. DEGREE EXAMINATION,APRIL 2019
III Year VI Semester
Sampling Techniques

Time : 3 Hours **Max.marks :60**

Section A $(10 \times 1 = 10)$ Marks

Answer any **TEN** questions

1. Define Population.
2. State any two suiations when census method is used.
3. Define Random Sampling.
4. Define Sampling Frame.
5. What do you mean by heterogeneous population?
6. Define Strata.
7. Define Systematic sampling.
8. Define Sampling Interval.
9. Define Ratio Estimator.
10. Define Regression Estimator.
11. State any two disadvantages of Systematic sampling.
12. Mention any two advantages of sampling methods.

Section B $(5 \times 4 = 20)$ Marks

Answer any **FIVE** questions

13. Explain about the principles of Sample survey.
14. Show that, In a SRSWOR, the sample mean is an unbiased estimator of the population mean.
15. Explain about the principle advantages of Stratified Random Sampling.
16. Discuss about the variance of the estimated mean of systematic sampling.
17. Explain about regression estimates when "b" is preassigned
18. Explain about the sampling errors.
19. Explain the terms Proportional and Optimal Allocations.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Explain about the principle steps in sample surveys.
21. Prove that, In SRSWOR, the variance of the sample mean is given by $Var(\overline{Y_n}) = \left(\frac{N-n}{nN}\right) S^2$
22. Explain about the procedure of selecting a sample from Stratified Random Sampling.
23. If the population consists of linear trend. Then prove that, $Var\ (\overline{y})_{st} \leq Var\,(\overline{y})_{sys} \leq Var\,(\overline{y})_{ran}$
24. Describe the procedure of Lahiri method with an example.

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