



Date: 03-05-2018

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

Part – A

Answer ALL the Questions:

10 x 2 = 20 marks

1. Define population.
2. State the limitations of sampling techniques.
3. What is mean by probability sampling?
4. Define SRSWR.
5. Define stratified random sample.
6. Write any two principles of stratification.
7. Define Systematic sampling.
8. Define Linear Systematic sampling.
9. Define Regression Estimator.
10. What is Bias of Ratio Estimator?

Part – B

Answer any FIVE Questions:

5 x 8 = 40 marks

11. Explain the terms (i) Parameter (ii) Statistic
12. Distinguish between census method and sampling method.
13. Compare the efficiency of sample mean under SRSWOR and SRSWR.
14. Show that in SRSWOR, the sample mean is an unbiased estimate of the population mean.
15. State the advantages and disadvantages of Stratified Random Sampling
16. Explain the principal advantages of systematic sampling.
17. Explain circular systematic sampling.
18. Derive the expression for the bias of the ratio estimator.

Part - C

Answer ant TWO Questions

2 x 20 = 40 marks

19. a) Describe the principal steps involved in a sample survey. **(10)**
- b) Distinguish between Sampling and Non-sampling Errors **(10)**
20. a) Explain the various allocations that are commonly used in Stratified Random Sampling. **(15)**
- b) Write a note on Simple Random Sampling of Attributes. **(5)**
21. Prove that $Var(\bar{y})_{st} \leq Var(\bar{y})_{sys} \leq Var(\bar{y})_{ran}$ When there is general linear trend in the population. **(20)**
22. a) Compare the efficiency of Neyman and proportional allocations. **(10)**
- b) Derive the menn squareerror of the regression estimator. **(10)**
