



Date: 05-05-2018
Time: 01:00-04:00

Dept. No.

Max. : 100 Marks

Section – A

Answer ALL Questions

(10 x 2 = 20 marks)

1. Define Census.
2. Explain the need of sampling.
3. Define a random sample.
4. State the disadvantages of random sampling.
5. Define strata with an example.
6. Explain the allocation problem in stratified random sampling.
7. Define systematic sampling.
8. State the real life situations when systematic sampling can be used.
9. Define ratio estimator.
10. Define regression estimator.

Section – B

Answer any FIVE Questions

(5 x 8 = 40 marks)

11. Discuss the principal steps in a sample survey.
12. Describe the advantages of sampling techniques over the complete enumeration method.
13. Show that, in SRSWOR, the sample mean square is an unbiased estimate of the population mean square.
14. Explain the procedure of selecting a sample in stratified random sampling.
15. Discuss the concept of Circular systematic sampling with an example.

16. State the advantages and disadvantages of simple random sampling
17. Describe the conditions under which the ratio estimator is BLUE.
18. Explain about the bias of ratio estimator.

Section – C

Answer any TWO Questions

(2 x 20 = 40 marks)

19. A) Explain the procedure of selecting a random sample by

- i) Lottery Method
- ii) Random Number Method.

B) Show that, In SRSWOR, the variance of the sample mean is given by

$$\text{Var}(\bar{y}_n) = \left(\frac{1}{n} - \frac{1}{N} \right) S^2$$

20. A) Discuss about sampling and non - sampling errors.

B) Explain about the principles of sample survey.

21. A) Discuss the procedure of selecting a sample by systematic sampling.

B) State the advantages and disadvantages of stratified random sampling.

22. A) Explain the terms (i) Proportional Allocation (ii) Optimum Allocation.

B) Discuss about the regression estimate with preassigned 'b'.
