



K20U 1556

Reg. No. :

Name :

**V Semester B.Sc. Degree (CBCSS – Reg./Sup./Imp.) Examination,
November 2020
(2014 Admn. Onwards)
CORE COURSE IN STATISTICS
5B08STA : Sampling Techniques**

Time : 3 Hours

Max. Marks : 48

Instruction : Use of calculators and **Statistical** tables are **permitted**.

**PART – A
(Short Answer)**

Answer **all** the **6** questions : **(6×1=6)**

1. What is a sample survey ?
2. What is the probability of selecting a sample of size 'n' from a population of size 'N' if it is Simple Random Sampling Without Replacement (SRSWOR) ?
3. What are the advantages of taking samples from a population ?
4. Distinguish between sample mean and the population mean.
5. Which are the important statistical institutions in India ?
6. What is meant by a sampling frame ?

**PART – B
(Short Essay)**

Answer **any 7** questions : **(7×2=14)**

7. State briefly the advantages of sampling over complete enumeration.
8. Find an unbiased estimator for the variance of sample mean under simple random sampling.
9. What is simple random sample ? Discuss different methods of drawing random sample.
10. Describe the method of determining sample size in case of simple random sampling.

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11. What are the merits and demerits of simple random sampling ?
12. Describe Neyman allocation.
13. Find the variance of the estimate of population mean in stratified random sampling.
14. Explain the method of selecting PPS sample from a finite population.
15. Explain the advantages of stratified random sampling.

PART – C

(Essay)

Answer **any 4** questions : **(4×4=16)**

16. Explain the following sampling methods with example
 - i) SRSWR
 - ii) SRSWOR
17. What is cluster sampling ? Obtain the variance of the estimate of population total in cluster sampling.
18. Find the mean and variance of sample mean under cluster sampling.
19. Find the variance of sample mean under SRSWOR.
20. Discuss the role of CSO and NSSO for carrying out the official statistical works in India.
21. Find the variance of estimate of the sample mean under optimum allocation.

PART – D

(Long Essay)

Answer **any 2** questions : **(2×6=12)**

22. Explain stratified random sampling. What are the principal advantages of stratified random sampling ?
 23. a) Distinguish between sampling error and non-sampling error.
b) What are the different sources of errors in sample survey ?
 24. Compare the gain in precision in stratified random sampling with proportional allocation over simple random sampling.
 25. Discuss the principal steps involved in a sample survey.
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