

**SHREE NARAYANA COLLEGE OF COMMERCE
AHMEDABAD**

Name of the Department: Statistics
Subject: Sampling In Research
Class & Semester: VI
Faculty Name: Dr.Neeta M.Mandaliya

ASSIGNMENT

SECTION – 1 (UNIT – 1)

Enlist: Sampling Methods

- (i) State Characteristics of a good sample.
- (ii) Explain Probability Sampling with Examples.
- (iii) Explain Non-Probability Sampling and its types.

SECTION – 2 (UNIT – 2)

Enlist: Simple Random Sampling and Techniques

- (i) Write a short note on Simple Random Sampling.
- (ii) From a population having units 5,9,11,19 a sample of size 2 is taken without replacement

Then verify the following results.

- (a) $E(\bar{y}) = \bar{Y}$
- (b) $E(s)^2 = S^2$
- (c) $V(\bar{y}) = \frac{N-n}{N} \frac{S^2}{n}$
- (iii) Explain with and without replacement

SECTION – 3 (UNIT – 3)

Enlist: Stratified Sampling and Systematic Sampling Techniques.

- (i) Explain Stratified Sampling.
- (ii) Explain Systematic Sampling.
- (iii) A group is divided into two strata. The information regarding these strata is as follows:

Stratum	Number of observations	Stratum mean	Stratum variance
1	400	52	16
2	600	48	40

Find the mean of the entire group. If a 100 sample size is taken, proportion allocation, find the variance of stratified mean.

SECTION – 4 (UNIT – 4)

Enlist: Introduction to Research

- (i) Write a short note on the research process.
- (ii) What are the criteria for good research?
- (iii) What is Research Design? Describe in detail.
- (iv) State the difference between Primary data and Secondary data.

SECTION – 5 (REVISION & PRACTICE)

Question: From Unit 1 to Unit 4, draft the following:

- (1) Of the following sampling methods, which is a probability method?
 - (a) Simple Random
 - (b) Judgement
 - (c) Quota
 - (d) Convenience
- 2) Increasing the sample size has the following effect upon the sampling error?
 - (a) It reduces the sampling error
 - (b) It increases the sampling error
 - (c) It does not affect the sampling error
 - (d) All of the above
- 3) Which of the following is not a type of non-probability sampling?
 - (a) Stratified random sampling
 - (b) Quota sampling
 - (c) Convenience sampling
 - (d) Snowball sampling
- 4) Sample is regarded as a subset of?
 - (a) Population
 - (b) Data
 - (c) Set
 - (d) Distribution
- 5) The difference between a statistic and the parameter is called:
 - (a) Sampling error
 - (b) Non-random
 - (c) Probability
 - (d) Random
- 6) $N = 4$. Sample size is 2, then how many samples are there in with replacement
- 7) The first step of research is:
 - (a) Identifying a problem

- (b) Selecting a problem
- (c) Searching for a problem
- (d) Finding a problem

8) Authenticity of a research finding is its:

- (a) Objectivity
- (b) Originality
- (c) Validity
- (d) All of the above

9) Which technique is generally followed when the population is finite?

- (a) Systematic Sampling Technique
- (b) Area Sampling Technique
- (c) Purposive Sampling Technique
- (d) None of the above

10) Action-research is:

- (a) Research carried out to solve immediate problems
- (b) An applied research
- (c) A longitudinal research
- (d) All the above

11) When a research problem is related to a heterogeneous population, the most suitable sampling method is:

- (a) Stratified Sampling
- (b) Cluster Sampling
- (c) Convenient Sampling
- (d) Lottery Method
