B.Sc. DEGREE EXAMINATION,APRIL 2020
III Year VI Semester
Sampling Techniques

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

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

Answer any **TEN** questions

1. State any two advantages of sampling.
2. Mention the limitations of sampling.
3. Write the variance of an estimate of population mean.
4. Define finite population correction
5. Define strata.
6. What is stratified sampling?
7. What is systematic sampling?
8. What is the advantage of systematic sampling?
9. Give the ratio estimate of population total.
10. What is probability proportional to size sampling?
11. What is pilot survey?
12. Define regression estimator

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

Answer any **FIVE** questions

13. Explain sampling error.
14. How do you determine sample size in sampling?
15. Elaborate the method of proportion allocation in stratified sampling.
16. Show that the sample mean is an unbiased estimator of population mean in systematic sampling.
17. Write the importance of auxiliary variable in sample survey.
18. Define ratio estimator and difference estimator.
19. What is the gain in precision of stratified sampling over simple random sampling without replacement.

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

Answer any **THREE** questions

20. Explain the principle of sample survey.
21. Show that the sampling mean is an unbiased estimator of population mean in simple random sampling without replacement. Also find its variance.
22. Obtain the variance of the estimate of population mean under Neyman's allocation in stratified sampling.
23. For a population with linear trend obtain the relationship among simple random sampling, stratified sampling and systematic sampling.
24. Compare regression estimator of population mean with ratio sampling and simple random sampling without replacement.

B.Sc. DEGREE EXAMINATION,APRIL 2020
III Year VI Semester
Sampling Techniques

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

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

Answer any **TEN** questions

1. State any two advantages of sampling.
2. Mention the limitations of sampling.
3. Write the variance of an estimate of population mean.
4. Define finite population correction
5. Define strata.
6. What is stratified sampling?
7. What is systematic sampling?
8. What is the advantage of systematic sampling?
9. Give the ratio estimate of population total.
10. What is probability proportional to size sampling?
11. What is pilot survey?
12. Define regression estimator

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

Answer any **FIVE** questions

13. Explain sampling error.
14. How do you determine sample size in sampling?
15. Elaborate the method of proportion allocation in stratified sampling.
16. Show that the sample mean is an unbiased estimator of population mean in systematic sampling.
17. Write the importance of auxiliary variable in sample survey.
18. Define ratio estimator and difference estimator.
19. What is the gain in precision of stratified sampling over simple random sampling without replacement.

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

Answer any **THREE** questions

20. Explain the principle of sample survey.
21. Show that the sampling mean is an unbiased estimator of population mean in simple random sampling without replacement. Also find its variance.
22. Obtain the variance of the estimate of population mean under Neyman's allocation in stratified sampling.
23. For a population with linear trend obtain the relationship among simple random sampling, stratified sampling and systematic sampling.
24. Compare regression estimator of population mean with ratio sampling and simple random sampling without replacement.