Time: 1 Hour   Max: 30 marks

This question paper has **THREE** parts and **ONE** printed page

PART – A

| I | Answer any FIVE of the following: | 5 x 2= 10 |

1. List out all possible samples of size 2 without replacement, if the units in the population are y_1, y_2, y_3 and y_4
2. What is Stratified Random sampling?
3. Write a note on Equal allocation
4. Give the confidence limits for population mean under SRSWOR
   a. if sample size is large
   b. if sample size is small
5. Explain the procedure of selecting systematic sampling
6. Define (i) Treatment (ii) Yield
7. What do you understand by uniformity trial?

PART – B

| II | Answer any TWO of the following: | 2 x 5 = 10 |

8. Explain the method of simple random sampling
9. Under systematic sampling, when N=nk, derive an expression for variance for r^{th} sample mean
10. Write a short note on principles of design of experiments

PART – C

| III | Answer any ONE of the following: | 1 x 10 = 10 |

11. A) Differentiate between Simple Random Sampling With Replacement and Simple Random Sampling Without Replacement. Which of them is better? Why? Justify.   (7)
    B) Obtain the unbiased estimator for the population proportion.   (3)

12. A) Compare Proportional allocation and Neyman's allocation. Which is more efficient? Why?   (6)
    B) Write a note on sample size determination under simple random sampling without replacement.   (4)