



QP CODE: 25050580



25050580

Reg No :

Name :

MSc DEGREE (CSS) EXAMINATION DECEMBER 2025

First Semester

M Sc OPERATIONS RESEARCH AND COMPUTER APPLICATIONS

Core Courses - CE020101 - STATISTICAL INFERENCE

2019 Admission Onwards

63503975

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. State the properties of the probability density function and distribution function.
2. Define normal probability curve and state its properties.
3. Define sample size for an interval estimate of population mean.
4. Explain sample size determination for mean and proportion.
5. What is critical region ?
6. State the relationship between α and β .
7. State some applications of ANOVA.
8. Define degrees of freedom and source of variation.
9. What is the data view and variable view.
10. Define data editor window and viewer window.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. Explain moments in Rectangular distribution.
12. Explain normal distribution as a limiting form of binomial distribution.
13. Let X_i are iid $U(0, \theta)$. Show that $\bar{X}_{(n)} \rightarrow \theta$ in probability.
14. Construct confidence interval for difference of means of two Normal population with unknown standard deviation.





15. Define Z test with it's properties.
16. Describe F test and it's characteristics.
17. State chi-square test and its characteristics.
18. Explain independent sample t-test and sample t-test with the help of SPSS.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Describe any three continuous distributions and briefly explain its characteristics.
20. Describe chi-square distribution and state its characteristics.
21. Explain the testing of of equality of two proportions.
22. Describe chi-square test for homogeneity, goodness of fit and independence.

(2×5=10 weightage)

