SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.
B.Sc. Statistics - END SEMESTER EXAMINATIONS APRIL - 2024
SEMESTER - V
**20USTCT5009 - Statistical Inference - II**

Total Duration : 2 Hrs. 30 Mins. Total Marks : 60

## Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. Define (i) critical region (ii) Type I error (iii) Type II error.
2. Explain monotone likelihood ratio property.
3. Compute Likelihood Ratio Test for the mean of a normal population'.
4. Describe Sign Test.
5. Explain the procedure of SPRT.
6. Write the steps involved in solving testing statistical hypothesis.
7. Explain one parameter exponential family and give any four distribution which comes under one parameter exponential family.
8. Write the procedure to solve Kruskal-Wallis test.

## Section C

Answer any **THREE** questions $(3 \times 10 = 30$ Marks)

9. Explain how will you prove Neymann-Pearson Lemma.
10. How will you compute Kerlin and Rubin theorem.
11. Explain how you will solve Likelihood Ratio Test for the equality of Means of two normal populations, when population variances are equal.
12. Explain how will you solve Median test.
13. Examine SPRT for testing $H : \theta = \theta_0$ against $K : \theta = \theta_1 > \theta_0$, in sampling from a normal density $N(\theta, \sigma^2), \sigma$ known.

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