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.
M.Sc.(BioStats) - END SEMESTER EXAMINATIONS APRIL - 2023
SEMESTER - II

20PBSCT2004 - Statistical Inference-II

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

Section B

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

1. State and prove Neyman Pearson Lemma .
2. Describe about locally most powerful test.
3. Determine Operating Characteristic function of SPRT.
4. Describe about Kolmogorov-Smirnov Test (one sample).
5. Explain about UMP test of two sided hypotheses for one parameter exponential family
6. A random sample of size n is available from normal distribution N(μ,σ^2) with σ^2 is known and obtain the LMP test for testing H_0: $\mu = \mu_0$ against H_1: $\mu \neq \mu_0$
7. State the optimum property of SPRT.
8. Asses the procedure of Friedman test with example.

Section C

I - Answer any **TWO** questions $(2 \times 10 = 20$ Marks)

9. Describe the steps involved in formulation of hypotheses testing.
10. Compute the Uniformly Most Powerful Unbiased (UMPU) test for one parameter exponential family for H_0: $= \theta_0$ vs H_1: $\theta \neq \theta_0$
11. Determine uniformly most powerful similar test for one parameter exponential family (H_0: $\theta_1 \leq \theta \leq \theta 2$ versus H_1: $\theta < \theta_1$ or $\theta > \theta_2$)
12. Explain the steps involved in Likelihood ratio test for Normal distribution (one population)

II - Compulsory question $(1 \times 10 = 10$ Marks)

13. Describe the procedure of Mann-Whitney test and Wilcoxon Signed-Rank test with suitable examples.

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