B.Sc. DEGREE EXAMINATION,NOVEMBER 2019
III Year V Semester
Statistical Inference - II

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

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

Answer any **TEN** questions

1. What is a statistical hypothesis?
2. Differentiate between null and alternate hypothesis.
3. Define the two types of error.
4. Define Uniformly Most Powerful test
5. What is MLR property?
6. Define likelihood function
7. State the properties of Likelihood Ratio test.
8. Define sign test
9. Specify the application of Mann-Whitney U test.
10. Define loss functions
11. What is Baye's risk?
12. Define SPRT

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

Answer any **FIVE** questions

13. List out the steps involved in solving testing of hypotheses problem.
14. Write a note on power function and power curve
15. Describe likelihood ratio test and its properties
16. Construct LRT for single mean from Normal population for known variance
17. Describe the procedure of sign test.
18. Give a brief note on decision theory
19. Describe the Sequential probability ratio test procedure.

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

Answer any **THREE** questions

20. State and prove the Neyman-Pearson Lemma.
21. Describe the UMP test for univariate exponential distribution
22. Construct the likelihood Ratio test for the variance of a normal population.
23. Discuss the Median test in detail, stating its application.
24. Find OC and ASN for Binomial distribution using SPRT

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