B.Sc. DEGREE EXAMINATION,APRIL 2019
II Year IV Semester
Statistical Inference - I

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

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

Answer any **TEN** questions

1. Define the term Point Estimation.
2. Define Consistency.
3. Define Unbiasedness.
4. Define BLUE.
5. What is Method of minimum Variance?
6. Define MLE.
7. State Assumptions of t-test.
8. Write the test statistic and its distribution under H_0 for testing variance of a normal population.
9. Define level of Significance.
10. State the $100(1-\alpha)\%$ confidence interval for mean of a normal population.
11. Define Efficiency.
12. What is an estimate?

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

Answer any **FIVE** questions

13. Write the properties of the good estimator. Explain
14. Prove that sufficient condition for consistency.
15. Estimate the MLE for Poisson distribution.
16. Write the confidence interval and assumptions for two proportions.
17. Explain the Chi-square test for Goodness of fit.
18. State and Prove Rao Blackwell theorem.
19. Show that Minimum Variance Unbiassed Estimator is unique.

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

Answer any **THREE** questions

20. State Neyman factorization theorem and derive the sufficient statistic for $V(0, \theta)$ distribution.
21. State and prove Crammer Rao inequality.
22. Obtain the MLE 's of parameters of a Noraml distribution.
23. Derive the Confidence interval for variance ratio based on chi square.
24. Explain the test of significance based on F Distributions.

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