Register Number:

DATE: 09-04-2019

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**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27**

B.Sc. STATISTICS – IV SEMESTER

SEMESTER EXAMINATION – APRIL 2019

**ST 417: Statistical Inference – II**

Time: 1½ Hour Max: 35 marks

This question paper has **THREE** parts and **ONE** printed page

**PART – A**

**I Answer any FIVE of the following: 5 x 2 = 10**

1. Differentiate between Most Powerful and Uniformly Most Powerful test with an example.
2. Write a note on Monotone likelihood ration property (MLR).

3. Give the test statistic for testing regression coefficient and explain the term.

4. Mention any two applications of Fisher’s Z-transformation.

5. Explain Independence of attribute with an example.

6. Give any two applications of non-parametric test.

7. Mention the tools to test for normality.

 **PART – B**

**II Answer any THREE of the following: 3x 5 = 15**

8. Obtain likelihood ratio test statistic for testing H0: $μ$ = $μ$0 When X ~ N($μ,σ^{2})$

 where $σ^{2}$ is known.

9. Explain the test procedure for testing equality of variances.

10. Describe the test procedure for goodness of fit.

11. When Wilcoxon signed rank test can be applied? And explain the testing procedure.

12. A) Define Kolmogorov-Smirnov one sample test (3)

B) Define run and find the number of runs and length of largest run from the following random sequence DDNNNDDNDDNNNNDDDNDNDNDNNDNDDNDND (2)

**PART – C**

**III Answer any ONE of the following: 1 x 10 = 10**

 13. A) Define Likelihood ratio test and mention any three applications of it. . (5)

 B) Describe Median test for testing, whether two independent samples

differ in their central tendencies. (5)

 14. A) Explain Yule’s method of measuring association between attributes. (3)

B) Explain the steps involved in testing independence of attributes For 2x2

contingency table. (7)