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Register Number:

DATE:

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

B.Sc. STATISTICS - IV SEMESTER

SEMESTER EXAMINATION - APRIL 2017

**ST: 415 – Tests of Significance**

**Time: 1½ Hours Max Marks: 35**

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

**SECTION – A**

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

1. What is fisher’s Z transformation? Explain the need for it.
2. When do you use ANOVA test and why?
3. Explain the need for non parametric tests
4. Differentiate between one tailed and two tailed tests
5. Explain level of significance.
6. Write down formula for Yule’s coefficient of association for 2x2 contingency table
7. Write down test statistic and mention the null distribution of same for testing significance of correlation coefficient

**SECTION – B**

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

1. Write down general steps involved in tests of significance (5)
2. A) What do you mean by large sample theory? (2)

B) Define i) odds ratio ii) contingency table (3)

1. Stating the assumptions involved, estimate the parameters one-way analysis of variance model (5)
2. Discuss about various alternatives for testing significance of single population mean, assuming known variance (5)
3. Explain Kolmogrov-Smirnov test for single sample (5)

**SECTION – C**

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

1. A) Explain Wilcoxon signed rank test for two sample problem (5)
2. Explain paired t –test for difference between two means (5)
3. A) Explain the procedure for testing equality of two population variances (5)

B) Mention any two applications of chi-square distribution (2)

C) What is critical difference (or least significant difference) in ANOVA? (3)