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Register Number:

DATE: **23-04-2017**

**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 page and **THREE** parts

**SECTION – A**

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

1. Differentiate between large sample and small sample tests of significance.
2. Give test statistic in testing independence of attributes for 2x2 contingency table
3. Write down formula for any two measures of association.
4. Explain different types of variation with examples.
5. Write down One-Way classification (ANOVA) table.
6. Define run and find number of runs from following sequence

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1. What do you mean by normality? Name any one graphical method for assessing normality

**SECTION – B**

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

1. What is fisher’s Z transformation? Explain the need for it with any two applications.
2. Explain procedure for testing significance of regression coefficient.
3. State all assumptions involved in the two-way classification model (with multiple observations per cell) along with its mathematical model (describe all notations used in the model)
4. Describe Median test for testing, whether two independent samples differ in their central tendencies
5. Explain sign test based on single sample

**SECTION – C**

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

1. A) Explain the tests related to single population mean under various alternatives (under small sample setup) (7)

B) Define i) odds ratio ii) level of significance iii) contingency table (3)

1. A) Describe the test procedure for goodness of fit. (5)

B) Define Spearman’s Rank Correlation Coefficient (2)

C) Explain the need for non-parametric tests (3)