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Register Number:

DATE: 23-04-2018 (9AM)

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

B.Sc. STATISTICS - IV SEMESTER

SEMESTER EXAMINATION - APRIL 2018

**ST: 416 – 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. What do you mean by odds ratio?
2. Define Pearson’s correlation coefficient and state its important characteristics.
3. Explain any two problems where t-test is applicable
4. Write a note on ANOVA
5. Write down mathematical model for one-way ANOVA with usual notations
6. What are the advantages of non-parametric tests?
7. Find the number of runs and length of longest run from the following random sequenceABBABBAAABAABAABABAAABBBBABAABABAABABA

**SECTION – B**

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

1. Explain the procedure for testing $H\_{0} : μ= μ\_{0}vsH\_{1} : μ\ne μ\_{0}$, where $μ= $population mean and $μ$0 = specified value of mean, when sample size is small and variance unknown
2. Explain the procedure for testing significance of single population variance
3. Partition the total sum of squares in one-way classification model in ANOVA
4. Explain Kolmogorov-Smirnov one sample test.
5. What is Normality condition? Explain any one method for checking normality in detail

**SECTION – C**

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

1. A) Explain the procedure for testing significance of population regression co-efficient (slope) in simple linear regression model (6)

B) Explain the procedure for testing equality of two population proportions (4)

1. A) Describe Mann Whitney U test (6)

B) Explain the general procedure for solving test of significance problems. (4)

ST-416-A-18