MANGALORE UNIVERSITY
Department of Statistics

STP506:PRACTICAL V: PRACTICAL BASED ON THEORY PAPERS (STH502 & STS 505)

Hours/Week: 6 Credits : 3		I.A. Marks: 30 Exam. Marks: 70

Course Outcomes:

CO1: To learn parametric, non-parametric and testing (simple, as well as, composite procedures.

CO2: To learn a strong theoretical background to develop test procedures for any type of populations

CO3: To demonstrate computational skills to implement various statistical inferential approaches.

CO4: Implement the multivariate analysis techniques with statistical software such as R in a manner that the methodology adopted is motivated by appropriate statistical theory.

Practical on STH502: Testing of Hypothesis:

1. Computing size of the test, power of the test and plotting power function.
2. Most powerful tests (Continuous as well as discrete distributions).
3. UMP one sided test including plotting of power function: Discrete distributions.
4. UMP one sided test including plotting of power function: Continuous distributions.
5. UMPU test based on one parameter exponential family.
6. Interval estimation: Pivotal approach and Interval estimation: Through the acceptance region of one sided UMP test and two sided UMPU tests for one parameter exponential family.
7. Likelihood ratio test for finite sample based on one and two independent sample from normal distribution and exponential distribution.
8. Bartlett test for homogeneity of variances.
9. Wald and Score test for large samples.
10. Non parametric test 1: Tests based on one and two sample sign and Wilcoxon signed rank test, Kolmogorov Smirnoff goodness of fit test, run test.
11. Non parametric test 2: Two and k-sample median test, two sample Wilcoxon-Mann Whitney test, two sample Kolmogorov Smirnoff test.

Practical on STS504 : Multivariate Analysis

1. Assessing normality of data – Q-Q plot and Chi-Square plot.
2. Exercises on bivariate normal
3. Hotellings T^2 statistic – I (one sample and two sample problem)
4. Principal Component Analysis and Cananical Correlation
5. Classification and discrimination –II
6. Factor Analysis