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Subject Title: Statistical Inference		Prepared by: D.Vaishnavi
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Unit - I:

- 1. Define simple and composite hypothesis
- 2. Explain types of errors
- 3. Define one-tailed and two-tailed test.
- 4. Define Null, Alternative Hypothesis and Critical region
- 5. Define LOS, Power of a test.
- 6. State and prove Neyman and Pearson Lemma theorem
- 7. Using NP-Lemma, obtain best critical region for Binomial, Poisson, Normal and Exponential distribution.
- 8. Define randomized and non-randomized test.

Unit -II

- 9. Explain the procedure for testing of hypothesis.
- 10. Explain the procedure for significance test for single mean and difference of means. And problems
- 11. Explain the procedure for significance test for single proportion and difference of proportions. And problems.
- 12. Procedure for difference of standard deviation and problems
- 13. Explain the confidence limits of single proportion.
- 14. State the applications of Fishers Z-transformation
- 15. Define Fishers Z-transformation
- 16. Definition of order statistics.
- 17. Statement of order statistics.

## Unit -III

- 18. Define Chi square -test for population variance.
- 19. Define Chi square -test for population variance
- 20. Define the confidence limits for  $\mu$  in single mean.



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- 21. Explain the procedure for observed correlation coefficient. problems
- 22. Chi square-test for independence of attributes Procedure and problems
- 23. Procedure t- test for single mean and problems.
- 24. Procedure t test for difference of means and problems
- 25. Procedure for Paired t test and problems
- 26. F test for equality of population variance and problems
- 27. Yates Correction for continuity for 2x2 table

## Unit -IV

- 28. Define Non Parametric tests with examples.
- 29. Comparision of Parametric and Non Parametric tests.
- 30. Explain types of Scales with examples.
- 31. Explain advantages and disadvantages of non parametric tests.
- 32. Explain Wilcoxon-man-Whitney U-test and problems.
- 33. Explain Median test.
- 34. Explain procedure for Wilcoxon Signed -rank test.
- 36. Explain Wald- Wolfowitz Run test and problems.
  37. Define Central Limit theorem