M.TECH DEGREE EXAMINATIONS: JANUARY 2011
First Semester
TEXTILE TECHNOLOGY
TTX505: Statistical Application in Textile Engineering

Time: Three Hours **Maximum Marks: 100**

Answer ALL Questions:-
PART A (10 x 2 = 20 Marks)

1. What is Correlation?
2. How to determine whether two Correlation Coefficients are Significant?
3. What do you meant by Pearson Chi-square?
4. What is the purpose of Analysis of Variance?
5. State the advantage of Box-Behnken Designs
6. What is Latin Square Designs?
7. What is the purpose of multiple regressions?
8. What is Process optimization?
9. Why the "Normal Distribution" is Important?
10. What are the differences between control limits and specification limits?

PART B (5 x 16 = 80 Marks)

11. a) Discuss the importance of Poisson and binomial distributions in Probability Theory and Statistics.

(OR)

b) Explain the Normal Distribution curve and its Characteristics and their application in Textile industry

12. a) Discuss the procedure for Hypothesis testing

(OR)

b) Explain the Chi-square Test and their Textile application

13. a) Explain the Nonparametric Methods.

(OR)

b) Explain the Analysis of Variance Models (ANOVA) with suitable example of textile application.

14. a) How do you assess the Process Capability ? Explain it.

(OR)

b) Explain the various Univariate and Multivariate Control Charts

15. a) How do you determine the optimal region to run a process? Explain it

(OR)

b) How do you select an experimental design? Explain them.

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