

MT-503	Applied Statistics
	<p><u>Probability Distributions:</u> Uniform, Binomial, Hyper geometric, Poisson, Normal, Exponential, Chi-square, F & T distributions.</p> <p><u>Sampling and Sampling Distribution:</u> Introduction, Sampling techniques, Sampling distribution of mean, Central limit theorem.</p> <p><u>Statistical Inference & Hypothesis Testing:</u> Confidence and significance level, Sample size determination, Point & interval estimates, Interval estimates for Population Mean, Population standard deviation, Population proportion, Type I, Type II Errors, One Tail & Two tail tests, tests concerning means, proportions & variances, Chi-square tests.</p> <p><u>Regression and Correlation:</u> Properties of least square, Simple linear regression, Non linear regression, Multiple regression, Estimates of regression parameters, Confidence limits & Test of significance, Choice of a Regression model, Correlation, Multiple and partial correlation, Coefficient of determination, Adequacy of the model.</p> <p><u>Introduction to Experimental Design:</u> Comparing mean test, ANOVA, Tests for the equality of several variances, Multiple range test.</p> <p>onparametric Statistics: Nonparametric tests, Signed-Rank test, Wilcoxon test, Kruskal-Wallis test, Rank correlation coefficient.</p> <p><u>Reference Books:</u></p> <ul style="list-style-type: none"> • Walpole, Ronald E and Mayers, Raymond H, <i>Probability and Statistics for Engineers and Scientist</i>, 8th Edition, Person Prentice Hall, 2007. • Freund and John E, <i>Mathematical Statistics</i>, Prentice Hall International Inc. New Jersey, 1999. • Hogg R.Vand Tanis E.A, <i>Probability and Statistical Inference</i>,4th Edition, Macmillan Publishing Company New York, 1993. • Mood A.M, Graybill F.A and Boes D.C, <i>Introduction to Theory of Statistics</i>, 3rd Edition Mcgraw-Hill Book Company New York, , 1974.