

MT-254 Statistical Inference

Sampling and sampling distribution: introduction, population, parameter & statistic, objects of sampling, sampling distribution of mean, standard errors, sampling & non-sampling errors, random and non-random sampling, sampling with & without replacement, central limit theorem, related problems, statistical inference and testing of hypothesis: introduction, estimation, types of estimates, point estimation, methods of point estimation, confidence interval, tests of hypothesis, one tails & two tails tests, related problems, regression and correlation: introduction, scatter diagrams, correlation & its coefficient, rank correlation & its coefficient, simple and multiple linear regression, nonlinear regression, test of significance, related problems, introduction to experimental design: comparing mean test, ANOVA: one way, two way and three way ANOVA, tests for the equality of several variances, multiple range test, related problems.

Recommended Books:

1. "Statistical Inference", George Casella, Roger L. Berger, Duxbury Thomson Learning, 6th Edition, 2002.
2. "Probability and Statistics for Engineers and Scientists", Ronald E. Walpole, Raymond H. Myers, Sharon L. Myers, Keying, Ye, Prentice Hall, 9th Edition, 2012