CA501 COMPUTER BASED NUMERICAL AND STATISTICAL TECHNIQUES

Prerequisite: Nil

Aim: To familiarise students with statistical and numerical techniques needed in problem-solving and industrial applications.

Course content:

Basic statistical measures – mean, median, standard deviation, skew, kurtosis; rank, percentile, frequency distributions, standard distributions, regression analysis, least squares fit, polynomial and curve fitting, multiple regression; Introduction to time-series analysis, forecasting, moving averages, exponential smoothing, autoregressive models; Goodness of fit methods, ANOVA, F-test, applications to computer Science.

Numerical Techniques for finding roots, Bisection method, Newton- Raphson method, numerical integration using Simpson's rules, Gaussian quadrature method, solving differential equations, interpolation and extrapolation.

Books:

1. Numerical Recipes in C
2. The books suggested for CA503