MA 201 (Engineering Mathematics-III)

L-T-P: (3-1-0) Credits: 04

Unit I - Complex Analysis-I
Analytic function, C-R equation, Harmonic functions, Line Integral in complex form, Cauchy's integral theorem, Cauchy's integral formula: Cauchy's Integral formula for derivatives of analytic functions, Taylor's and Laurent's Series, Singularities, Zeroes and Poles

Unit II - Complex Analysis-II
Residue, Residue theorem, Evaluation of real integrals, Fundamental Theorem of algebra, Liouville's theorem, Conformal mapping

Unit III - Statistics-I
Moments, Moment generating functions, Skewness, Kurtosis, Curve fitting, Method of least squares, Fitting of straight lines, Polynomials, Exponential curves, Correlation, Regression analysis: Linear, Nonlinear and multiple.

Unit IV - Statistics-II

Sampling theory, Tests of significations: Chi-square test, t-test, Analysis of variance (one way), Time series and forecasting, Statistical quality control methods, Control charts, R, p, np, and c charts. Introduction to Stochastic process

Unit V - Theory of Probability
Probability, Conditional Probability, Bay's Theorem, Probability density function, Binomial distributions, Poisson distributions and Normal distributions,

Books:

1. V. K Rohatgi, An Introduction to Probability Theory and Mathematical Statistics, John Wiely & Sons 1976.
2. B. V. Ramana, Higher Engineering Mathematics, Tata McGraw Hill.
3. John Freund, Introduction to Probability, Dover Publications.
4. Marylees Miller, John E. Freund, Irwin Miller, Mathematical Statistics: With Applications, Prentice Hall 2003.
5. Levin and Rubin, Statistics for Management, Prentice Hall.