

### Detailed Syllabus:

Course Code	Course Title	Hours per week L-T-P	Credit C
MA181301A	Mathematics III-A (for branches other than CSE and ECE/ETE)	2-1-0	3

#### MODULE 1: Partial Differential Equation: (15 Hours)

Formation of Partial Differential equations, Linear partial differential equation of first order, Non-linear partial differential equations of first order, Charpit's method, Method of separation of variables, boundary value problem with reference to the one dimensional heat and wave equation.

#### MODULE 2: Probability Theory: (15 Hours)

Review of basic probability and Bayes' theorem, Probability distribution, Binomial, Poisson and normal distribution, Joint distribution, Test of significance, fitting of straight line by least square method, Elementary concept of Markov Chain.

#### MODULE 3: Laplace Transform: (10 Hours)

Laplace transform of elementary function, Properties of Laplace transform, inverse Laplace transform, convolution theorem, Solution of ordinary differential equations with the help of Laplace transform.

#### Textbooks/References:

1. Advanced Engineering Mathematics: Erwin Kreyszig
2. Higher Engineering Mathematics: B V Ramana
3. Theory and problems of Probability: Seymour Lipschutz
4. A text book of engineering Mathematics: N. P. Bali & M. Goel
5. Statistical Methods: An Introductory Text- J.Medhi, New Age International Publishers