



Department of Mathematics

MATHEMATICS –III (MT201)

Unit	Details
I	Partial Differential Equations : Formation of partial-differential equations, Linear first order equations, Lagrange's equation, Non linear first order equations, Charpit's method, Standard forms.
II	Fourier Series and its applications to Partial differential equations : Expansion of a function in Fourier series for a given range, Fourier series for odd and even functions, Change of interval, Half range sine and cosine series. Solution of wave equation, heat equation and Laplace's equation by the method of separation of variables and their use in problems of vibrating string, one dimensional unsteady heat flow and two dimensional steady state heat flow.
III	Statistics: Introduction to Probability, Baye's theorem, Random variables, Density functions, Mathematical expectation, Expected values, Moments and Moment generating functions, Characteristic functions.
IV	.Distributions: Poisson, Normal, Gamma and Chi-Square distributions, Test of significance, Chi-Square, F and t-tests.
V	Curve fitting by method of least squares: Fitting of curves by the method of least squares (straight line, parabola, exponential curves), Correlation and Regression, Lines of regression.

Book Title/Authors/Publication
R.K.Jain and S.R.K.Iyengar , "Advanced Engineering Mathematics", Narosa Publications
B.S,Grewal "Higher Engineering Mathematics", Khanna Publications
Erwin Kreyszig, "Advanced Engineering Mathematics", Wiley-India.

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