



STANLEY
COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
(Approved by AICTE , New Delhi | Affiliated to Osmania University ,Hyderabad)
Address : Chapel Road, Abids ,Hyderabad

Department of Mathematics

APPLIED MATHEMATICS (MT202)

Unit	Details
I	Partial Differential Equations : Formation of partial-differential equation of first order-Lagrange's solution, Standard types- Charpit's method of solution- partial differential equations of higher order, Monge's method
II	Functions of Complex variables: Limits and continuity of function- Analytic function- Cauchy Riemann equation- Harmonic functions- Complex integration- Cauchy's theorem- derivative of analytic functions- Cauchy's integral formula and its applications.
III	Taylor's and Laurent's Expansions –Zeroes and singularities –Residues – Residues theorem- evaluation of real integrals using Residue theorem- Conformal Mapping-Bilinear transformation
IV	Numerical Methods : Solutions of Algebraic and Transcendental equations- Bisection method, Regula falsi method and Newton-Raphson's method- solution of linear system of equations, Gauss elimination method, Gauss Seidel iterative method, ill conditioned equations and refinement of solutions, Interpolation, Newton's divided difference interpolation- Numerical differentiation, Solution of differential equations by Euler's method, modified Euler's method and Runge-Kutta method 4 th order.
V	Curve Fitting by the method of least squares: Correlation and regression – line of regression, fitting of curves by the method of least squares..

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.

SCETM