

Curriculum Plan: Generic Maths III Year (Semester V), Numerical Methods (Including Practical), ODD SEM 2025-26

Teacher Profile: Anjali Department of Mathematics Kalindi College, University of Delhi, Delhi- 110008 Mobile: +91-8708175676 E- mail: anjali@kalindi.du.ac.in			Marks Distribution	Theory	90 Marks
				Practical	40 Marks
			Classes Assigned	Internal Assessment	Assignments 30 Marks
				Lectures	3 per week
				Practical Groups (per week per Student)	2 per week
Reference	[1]	Chapra, Steven C. (2018). Applied Numerical Methods with MATLAB for Engineers and Scientists (4th ed.). McGraw-Hill Education.			
	[2]	Jain, M. K., Iyengar, S. R. K., & Jain R. K. (2012). Numerical Methods for Scientific and Engineering Computation (6th ed.). New Age International Publishers. Delhi.			
Section	Week	Topic			
Session 1	1st week	Errors: Roundoff error, Local truncation error, Global truncation error.			
	2nd week	Order of a method, Convergence, and terminal conditions, Basic idea about methods.			
Session 2	3rd week	Bisection method, Secant method.			
	4th week	Regula-Falsi method, Newton-Raphson method.			
	5th week	Assessment problems on Secant method, Regula-Falsi method, Newton-Raphson method.			
	6th week	Gaussian elimination method with row pivoting, Gaussian elimination by direct method			
Session 3	7th week	Iterative methods: Jacobi method, Gauss-Seidel method.			
	8th week	Interpolation: Lagrange form, Newton form.			
	9th week	Interpolation: Finite difference operators.			
	10th week	First and second order numerical derivatives; Trapezoidal rule,			
Session 4	11th week	First and second order numerical derivatives; Simpson’s rule for numerical integration;			
	12th week	Ordinary differential equation: Euler’s.			
	13th week	Ordinary differential equation: Runge-Kutta method.			
	14th week	Class test and Assignment			
	15th week, 16th week	Revision and assignment Problems			