

Syllabus : **Numerical Analysis**: Solution of algebraic and transcendental equations by bisection method, iteration method, Regular-Falsi (False position) method, Newton-Raphson method, Solution of Simultaneous linear equations by Gauss Elimination and Gauss-Seidal method; **Interpolation**: Concept of interpolation, difference operators, divided difference interpolation, Newton's forward, backward interpolation, Lagrange's interpolation, Starling and Bessel's interpolation, Numerical differentiation (1st and 2nd order), Numerical integration (Trapezoidal, Simpson's one-third, Weddle's rule); **Numerical Solution of Ordinary differential equation**: Taylor's method, Picard's method, Runge's method, Runge-Kutta's method, Euler's method and Euler's modified method, Predictor-corrector method.

Texts :

1. Jain, Iyengar and Jain : Numerical Methods for Engineers and Scientists, Wiley Eastern

References :

1. S. D. Cante and C. de Boor, Elementary Numerical Analysis, an algorithmic approach, McGraw-Hill.

2. Gerald and Wheatley : Applied Numerical Analysis, Addison- Wesley.