

Numerical Methods & Algorithms

Code: **BM401**

CONTACTS: 3L + 1 T

CREDITS: 4

Approximation in numerical computation, Truncation and rounding errors.

Interpolation : Lagrange's interpolation, Newton forward and backward differences interpolation, Newton divided difference.

Numerical Integration: Trapezoidal rule, Simpson 1/3 rule, Weddle's rule.

Numerical solution of a system of linear equation

Gauss elimination method, Matrix inversion, LU factorisation method, Gauss-Jacobi method, Gauss Seidel method.

Algebraic Equation : Bisection method, Secant method, Regula-Falsi method, Newton Raphson method, Method of Iteration

Numerical solution of ordinary differential equation : Taylor's series method, Euler's method, Runga – kutta method, predictor – correction method.