Numerical Analysis Syllabus

Numerical Analysis:

- *Solution of algebraic and transcendental equations by bisection method*
- *Solution of algebraic and transcendental equations by iteration method*
- *Solution of algebraic and transcendental equations by 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 interpolation*
- *Newton's backward interpolation*
- *Lagrange's interpolation*
- *Starling and Bessel's interpolation*
- *Numerical differentiation (1^{st} and 2^{nd} 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*