

SYLLABUS
B.C.A. PART-III

PAPER-VII
NUMERICAL ANALYSIS

UNIT-I

Algebraic Equations

Solution of Polynomial and Transcendental Algebraic Equations: Bisection method, Regula-falsi method & Newton's method, Solution of Cubic & Biquadrate Equation, Complex roots of polynomial equations.

UNIT- II

Simultaneous Equations

Simultaneous Equations and Matrix, Gauss-Jordan method, Cholesky's method, Reduction to lower or upper Triangular forms, Inversion of matrix, method of partitioning, Characteristics equation of matrix, Power methods, Eigen values of matrix, Transformation to diagonal forms.

UNIT - III

Curve-Fitting

Curve-Fitting from Observed Data Divided difference table for evenly or unevenly spaced data, polynomial curve-fitting - Newton's, Gauss and Lagrange's form of interpolation and Divided Differences, method of least square for polynomials,.

UNIT - IV

Numerical Differentiation and Integration

Numerical Differentiation and Integration, Forward and Backward differential operators, Newton - Cotes integration formula: Trapezoidal Rule, Simpson's Rule, Boole's Rule, Weddle Rule, Legendre's rule, method of weighted coefficients.

UNIT - V

Solution of Differential Equations

Solution of Differential Equations, Numerical Solution of ordinary differential equations, one step method, Taylor's Series, Predictor- Corrector Method, Euler's Method, Runge-Kutta Method, Milne's method.

Text Books:

1. Garewal B.S., "Numerical methods", Khanna Publication.
2. Gupta & Mallic, "Numerical Methods", Krishna Prakashan.
3. Hamming R.W., "Numerical Methods for scientist & Engineers", McGraw Hill.
4. Conle S.D., "Elementary numerical analysis Carl De Boor", International Book Company London.
5. Jain M.K., "Numerical methods for Science and Engineering" Iyengar S.R.K. Calculations (John Willey & Sons).

SYLLABUS
B.C.A. PART-III

LAB-I
RDBMS & WEB TECHNOLOGY
Practical as per syllabi of theoretical paper.

The break-up of marks for Third Year Practical will be as under :			
Sr. No.	Argument	Maximum Marks	Minimum Passing Marks
1.	Lab Record	15	
2.	Viva-voce	20	
3.	Program Development and Execution	40	
Total Marks		75	25

BCA PART-III
LAB-II
Minor Project

The break-up of marks for Project will be as under :			
Sr. No.	Argument	Maximum Marks	Minimum Passing Marks
1.	Project Report	25	
2.	Viva-voce/ Presentation	25	
3.	Project Execution	50	
Total Marks		100	50