

**COURSE CODE:** IGIT– 301-CR5  
**COURSE TITLE:** COMPUTER ORIENTED NUMERICAL TECHNIQUES  
**CREDITS** 4+2 = 06

**Unit I**

Introduction, Requirements for computer-oriented solutions to numerical problems, Introduction to Algorithms, Concept of Approximate Number and Significant Digits. Representation of Numbers in Memory. Approximations & Errors – Types of Programming Errors and its types, Measure of Accuracy and Precision.

**Unit II**

Algorithms to Compute Roots of Equation – Methods of Tabulation or Brute Force Method, Method of Bisection, Newton-Raphson Method, Method for False Position.

**UNIT III**

Algorithms to Solve Linear Algebraic Equations: Gauss Elimination, Gauss Jordan, Gauss Seidel.

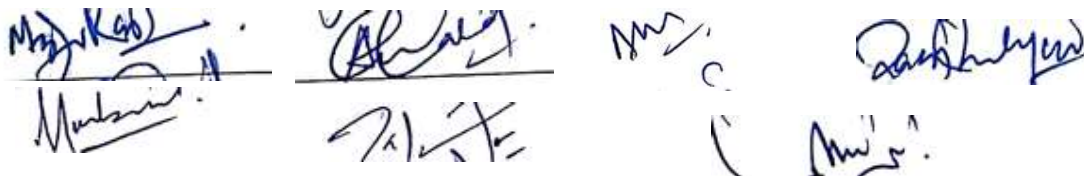
Algorithms for Curve Fitting: Least Square Approximation, Lagrange Interpolated Polynomial, Newton Divided Differences Interpolating Polynomial.

**UNIT IV**

Algorithms to solve Ordinary Differential Equations – Euler Method and Modification, R-K Method second and fourth Order

**Reference Books:**

1. RS Salaria- "Computer Oriented Numerical Methods", Khana Book Publishing Co
2. E Balaguruswamy, "Numerical Methods", Tata Mcgraw Hill
3. V Rajaraman "Computer Oriented Numerical Methods". PHI learning



Four handwritten signatures are displayed in a row, each with a horizontal line underneath. From left to right: the first signature is 'M. J. K. G.'; the second is 'A. K. S.'; the third is 'M. S.'; and the fourth is 'R. S. S.'.