Subject Code : SYS1

Allied Mathematics
NUMERICAL METHODS AND OPERATION RESEARCH

UNIT – I

Algebric equations – solving by Newton –Raphson Method – Gauss elimination method for solving system of equations – Gauss Seidal method of Iteration – Numerical integration by Trapezoidal and Simpson's Rule.

UNIT – II

Euler's Method of solving an ordinary Differential Equation Numerically; Runge-Kutta;s second order method of solving ordinary differential equations.

UNIT – III

Operation Research: Linear Programming – Problem solving by Graph, and Simplex methods.

UNIT – IV

Finding intial Basic Feasible solution by North West Corner – Rule and Least cost Method for a given Transformation problem.

UNIT – V

PERT – NETWORK – Finding Critical Path – Computation of Total Float – Free Float and Independent Float – PERT Model with Probability consideration.

Text Book Recommended:

1. "Numerical methods in Science and Engineering", by Dr.M.K.Venketaraman M.A., M.Tech., Ph.D., National Publishing company, Madras – 1997.
2. "Operation Research", by S.Dharani Venkatakrishnan - Keerthi Publishing House – 1997.

Reference Book:

1. "Introductory method of Numerical Analysis", by S.S.Sastry - Prentice Hall of India Ltd., - New Delhi – 1994.
2. "Operation Research", by S.D.Sharma Kedarnath and Ramnath Publishers and Co., Meerut – 1997.