

APPLIED MATHEMATICS LAB

Paper Code: ETMA-252
Paper: Applied Mathematics Lab

L	T/P	C
0	2	1

List of Experiments:-

1. Solution of algebraic and transcendental equation.
2. Algebra of matrices: Addition, multiplication, transpose etc.
3. Inverse of a system of linear equations using Gauss-Jordan method.
4. Numerical Integration.
5. Solution of ordinary differential equations using Runge-Kutta Method.
6. Solution of Initial value problem.
7. Calculation of eigen values and eigen vectors of a matrix.
8. Plotting of Unit step function and square wave function.

It is expected that atleast 12 experiments be performed, including the above specified 8 experiments which are compulsory. The remaining experiments may be developed by faculty and students based on applications of Mathematics in Real Life problem.

Text Books:

1. B.S. Grewal., "Numerical Methods in Engg. And Science", Khanna Publications
2. P. Dechaumphai & N. Wansophark, "Numerical Methods in Engg.: Theories with Matlab, Fortran, C & Pascal Programs", Narosa Publications

Reference Books:

1. P.B. Patil & U.P. Verma, "Numerical Computational Methods", Narosa Publications
2. John C. Polking & David Arnold, "Ordinary Differential Equations using MATLAB", Pearson Publications
3. Rudra Pratap, "Getting Started With MatLab" Oxford University Press
4. Byrom Gottfried, "Programming With C" Shaum's Outline
5. Santosh Kumar, "Computer based Numerical & Statistical Techniques", S. Chand Publications.

NOTE:- At least 8 Experiments out of the list must be done in the semester.