20MA 501P					ADVANCED NUMERICAL TECHNIQUES AND COMPUTER PROGRAMMING					
Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs. / Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
0	0	2	1	2	---	---	---	50	50	100

Computer program (in MATLAB) of following topics/methods will be discussed and executed in the lab.

1. Curve fitting,
2. Newton Gregory Forward Interpolation Formula,
3. Newton Gregory Backward Interpolation Formula,
4. Lagrange's Interpolation Formula for unevenly spaced Formula,
5. Newton's Divided Difference Formula, cubic spline interpolation.
6. Graeffe's root squaring method,
7. Euler's method,
8. Runge-Kutta methods,
9. Modified Euler's method,
10. Predictor corrector method: Adam's method, Milne's method.
11. Solution of Boundary value problems using finite differences.
12. Solution of tridiagonal system,
13. Solution of elliptic, parabolic and hyperbolic equations of one and two dimensions,