



ARSD College, University of Delhi

Lesson Plan

Course Name : B.Sc. (physical science computer) Lab						
Semester	Course Code	Course Title	Lecture (L)	Tutorial (T)	Practical (P)	Credit (C)
VI		Numerical Methods			4	2
Teacher/Instructor(s)		Shilpi Jain/Amit Mittal				
Session		2021-2022				

Course Description:

This course will enable the students to implement the computational methods using "Maxima", Computer Algebra System (CAS).

List of Experiments:

Details of the Lab Course		
Session	Name of Experiment	Contact Hours
1	Bisection Method	4
2	Secant Method and Regula-Falsi Method	8
3	Newton-Raphson Method	4
4	Gaussian elimination method and Gauss-Jordan method	8
5	Jacobi Method and Gauss-Seidel Method	8
6	Lagrange Interpolation and Newton Interpolation	8
7	Trapezoid and Simpson's rule	8
8	Euler methods for solving first order initial value problems of ODE's	4
9	Revision and Test	4
Total		56
Suggested Books:		
Sl. No.	Name of Authors/Books/Publishers	Year of Publication/Reprint
1.	Chapra, Steven C. (2018). Applied Numerical Methods with MATLAB for Engineers and Scientists (4th ed.). McGraw-Hill Education.	2018
2.	Fausett, Laurene V. (2009). Applied Numerical Analysis Using MATLAB. Pearson. India.	2009
3.	Jain, M. K., Iyengar, S. R. K., & Jain R. K. (2012). Numerical Methods for Scientific and Engineering Computation (6th ed.). New Age International Publishers. Delhi.	2012
4.	Bradie, Brian (2006). A Friendly Introduction to Numerical Analysis. Pearson Education India. Dorling Kindersley (India) Pvt. Ltd. Third Impression, 2011.	2011

5	Practical Mathematics (Using Maxima Software) by Dr. Gurpreet Singh Tuteja, Book Age Publications	2012
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Evaluation Scheme:

No.	Component	Duration	Marks
1.	Internal Assessment		25
	• Quiz/Viva		
	• Observation & Record		
	• Attendance		
	• Model Exam		
2.	End Semester Examination	3 hr	25