Department of Mathematics
Lesson Plan of Lab Component
Academic Year 2022-23
Semester: I

Subject Code: 22MATM11   *Mathematics-I For ME stream*   **2 Hrs./Week**

Lab. No	CONTENTS	TEACHING METHOD	CO/PO
1	***Basics of Python***	Mathematical tool Python	5/1,2,12
2	Programming structures	"	5/1,2,12
3	2D-plots of Cartesian and polar curves	"	1,5/1,2,12
4	Finding the angle between two polar curves,Curvature and Radius of curvature	"	1,5/1,2,12
5	Find Partial Derivatives and Jacobians	Mathematical tool Python	2,5/1,2,12
6	Taylor Series Expansion and L'Hospital's Rule.	"	2,5/1,2,12
7	Solution of First order Differential equations and Plotting the solution curve.	"	3,5/1,2,12
8	Numerical solution of System of equation and Plotting the solution curves.	"	4,5/1,2,12
9	Numerical solution of system of equations,Test for consistency and Graphical representation of the solution.	Mathematical tool Python	4,5/1,2,12
10	Solution of Linear Equation by Gauss-Seidal method	"	4,5/1,2,12
11	Compute Eigen Value and Corresponding Eigen Vectors.Find the dominant Eigen Value and corresponding Eigen Vector by Rayleigh Power Method.	"	4,5/1,2,12
12	Solution of second order ODE and plotting the solution curve.	"	3,5/1,2,12
13	Solution of differential equation of Oscillations of Springs with various load.	Mathematical tool Python	3,5/1,2,12

Course Instructor   HoD

Department of Mathematics
Lesson Plan of Lab Component
Academic Year 2022-23
Semester: I

Subject Code: 22MATE11   *Mathematics-I For EE stream*   **2 Hrs./Week**

Lab. No	CONTENTS	TEACHING METHOD	CO/PO
1	***Basics of Python***	Mathematical tool Python	5/1,2,12
2	Programming structures	"	5/1,2,12
3	2D-plots of Cartesian and polar curves	"	1,5/1,2,12
4	Finding the angle between two polar curves,Curvature and Radius of curvature	"	1,5/1,2,12
5	Find Partial Derivatives and Jacobians	Mathematical tool Python	1,5/1,2,12
6	Taylor Series Expansion and L'Hospital's Rule.	"	1,5/1,2,12
7	Solution of First order Differential equations and Plotting the solution curve.	"	2,5/1,2,12
8	Numerical solution of System of equation and Plotting the solution curves.	"	4,5/1,2,12
9	Numerical solution of system of equations,Test for consistency and Graphical representation of the solution.	Mathematical tool Python	4,5/1,2,12
10	Solution of Linear Equation by Gauss-Seidal method	"	4,5/1,2,12
11	Compute Eigen Value and Corresponding Eigen Vectors.Find the dominant Eigen Value and corresponding Eigen Vector by Rayleigh Power Method.	"	4,5/1,2,12
12	Program to compute Area,Volume and centre of Gravity	"	3,5/1,2,12
13	Evaluation of Improper Integrals	Mathematical tool Python	3,5/1,2,12

Course Instructor   HoD