CAE/CAM LAB

Course code	20ME3651	Year	III	Semester	II
Course category	Program Core	Branch	ME	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Prerequisites	Nil
Continuous Internal Evaluation	15	Semester End Evaluation	35	Total Marks	50

Course Outcomes: Upon successful completion of the course, the student will be able to

CO	Statement	Skill	BTL	Expts.
CO1	Demonstrate the main stages of Finite Element analysis.	Apply	L3	1-6
CO2	Perform modeling and analysis of structural and heat transfer problems.	Apply	L3	1-6
CO3	Use CAM software to generate NC code	Apply	L3	7, 8
CO4	Machine simple components on CNC machines	Apply	L3	9-12

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3: High, 2: Medium, 1: Low)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	3		2	3				1			2	2	3
CO2	1	3		2	3				1			2	2	3
CO3	1				3				1			2	2	3
CO4	1				3				1			2	2	3

Syllabus		
Expt. No	**Contents**	**Mapped CO**
	CAE LAB	
1.	Static analysis of indeterminate/ composite bars	**CO1 CO2**
2.	Shear force and bending moment diagrams of a beam	
3.	Thermal stress in bar.	
4.	static analysis of plane or 3-space truss/frame	
5.	Evaluation of Stress concentration factor in a rectangular plate with central hole	
6.	Stress distribution in thick a cylinder subjected to internal and/external pressures	
	CAM LAB	
7.	Rectangular and Arbitrary contouring NC code generation using ESPRIT	**CO3**
8.	Facing, Taper Turning and Arbitrary Profile Turning NC code generation using ESPRIT	
9.	Rectangular contouring on XL MILL	**CO4**
10.	Arbitrary contouring on XL MILL	
11.	Facing and Taper turning on XLTURN	
12.	Arbitrary Profile Turning on XLTURN	