

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	