CAD/CAM LAB

Course code	19ME3651	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:	25	Semester End Evaluation:	50	Total Marks:	75

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	Demonstrate the main stages of Finite Element analysis.
CO2	Perform modeling and analysis of structural and heat transfer problems.
CO3	Machine simple components on CNC machines
CO4	Use CAM software to generate NC code

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
	CAD LAB	
I	Static analysis of indeterminate/ composite bars	CO1 CO2
II	Shear force and bending moment diagrams of a beam	
III	Thermal stress in bar.	
IV	static analysis of plane or 3-space truss/frame	
V	Evaluation of Stress concentration factor in a rectangular plate with central hole	
VI	Stress distribution in thick a cylinders subjected to internal and/external pressures	
	CAM LAB	
I	Rectangular contouring on XL MILL	CO3
II	Arbitrary contouring on XL MILL	
III	Step turning on XLTURN	
IV	Taper Turning on XLTURN	
V	Rectangular and Arbitrary contouring NC code generation using ESPRIT	CO4
VI	Step turning and Taper Turning NC code generation using ESPRIT	

Learning Resource
Text books:
1.K.L.Kumar."Engineering Fluid Mechanics" Experiments, Eurasia Publishing House, 1997   2.Jagdish Lal, Hydraulic Machines, Metropolitan Book Co, Delhi, 1995
Reference books
1.Hydraulics and Fluid Mechanics, by P.N.Modi and S.M.Seth, Standarard book house, 2000, New Delhi.   2.Fluid Mechanics and Hydraulic Machines, by Sukumar Pati, Mc Graw Hill Education Private Limited, 2014, New Delhi.   3.Hydraulics and Fluid Mechanics and fluid machines, by S Ramamrutham, Dhanapat rai publishing company, New Delhi