FINITE ELEMENT ANALYSIS LAB

I Semester

Course Code: 19ME2104	L	P	C
	0	3	1.5

Course Outcomes: At the end of the course, the student will be able to
CO1: Generate part models of different mechanical components using modeling packages.
CO2: Analyze stresses using 1-D and 2-D elements.
CO3: Analyze stresses using 3-D elements.
CO4: Calculate natural frequencies and mode shapes using dynamic analysis.
CO5: Solve optimization problems using FEA packages.

List of Experiments:

Note: Any ten exercises from the following.

1. Modeling of machine components-I
2. Modeling of machine components-II
3. Assembly of machine components-I
4. Assembly of machine components-II
5. Static analysis with link elements
6. Static analysis with beam elements
7. Static analysis with shell elements
8. Static analysis with solid elements
9. Static analysis with Axi-symmetric triangular elements
10. Bulking analysis of pressure vessel
11. Modal analysis of shaft
12. Harmonic analysis of plate
13. Steady-state thermal analysis of a cylinder
14. Transient thermal analysis of a cylinder
15. Analysis of beam using ANSYS workbench
16. Size optimization of beam