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**ADVANCED MECHANICAL DESIGN LAB****Subject Code: 13ME2213****L P C**  
**0 3 2****Pre requisites:** Theory of machines and Design of machine members**Course Educational Objective:**

To impart hands on experience to the student in design and analysis of mechanical components

**Course Outcomes:**

The student will be able to

1. perform vibration measurements for any structure
2. fabricate the composites
3. perform static and dynamic balancing for various components
4. determine the bending and fatigue strength of materials
5. demonstrate gyroscopic effect
6. design, analyze and prepare fabrication drawings of mechanical components

**Note:** Any **TEN** exercises from the following

1. Vibration measurements
2. Universal Testing Machine– Bending test
3. Composite Fabrication – Hand lay-up
4. Fatigue Testing Machine – Bending
5. Gyroscope
6. Static and dynamic balancing
7. Design of parts of IC Engine – crankshaft, connecting rod, piston, valve gears
8. Design of power transmission systems – complete design of belt drive and gear reducer and Drafting.
9. Creep test
10. Experiments using strain gauges
11. Load cell and strain gauge based study on cantilever
12. Inductive Pick up Strain Gauge based study on cantilever