

## ME-523 Simulation lab

1. Analysis of beams for different cross section and different boundary condition for different loading conditions
  - a) Uniformly distributed load,
  - b) Uniformly Varying load,
  - c) Angular loads
  - d) Stepped Beam
  - e) Bars of Tapered Cross section Area
2. Analysis of frames and structures
  - a) 2D Truss b) 3D Truss
3. Stress analysis of a rectangular plate with a circular hole and elliptical hole and comparing the results with half modal and quarter modal
4. Plain stress analysis and plain strain problem
5. Dynamic analysis
  - Modal Analysis of a Beam for different boundary conditions and natural Frequency determination
  - Harmonic Analysis of a Cantilever Beam
  - Transient Analysis of a Cantilever beam
  - Beam subjected to forcing function
6. Thermal analysis
  - a) Thermal Analysis - 2D problem with conduction, convection and boundary conditions
7. Laminar Flow Analyses in a 2-D Duct