

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Semester: 2

**Mechanical Engineering (CAD/CAM)**

Subject Name FEM & Software Lab

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Sr. No.	Practicals
1.	Study of Finite Element Analysis and its different approaches.
2.	Basic procedure of Finite Element Method and Mathematical formulation of problems.
3.	Analysis of 1D structural members and verification of the same through manual calculation.
4.	Beam analysis problems and their verification.
5.	Analysis of 1D and 2D trusses, their formulation and use of software.
6.	Preparation of 3D model of a part and its analysis.
7.	Formulation of Dynamic problem and its solution for finding Eigen values and Eigen vectors.
8.	Problem formulation of 1D & 2D heat transfer problem and verifying solution using software.
9.	Study of Numerical procedures for the dynamic analysis of simple structures.

Programs are to be developed and used in above topics.

At least one project and a case study should be carried out based on recent publications / research papers / technical development.