TCA
TRAINING & DEVELOPMENT

ANSYS Training Program

MENTORTCA TECHNOLOGY PVT. LTD.

ADDRESS:

Head Office:
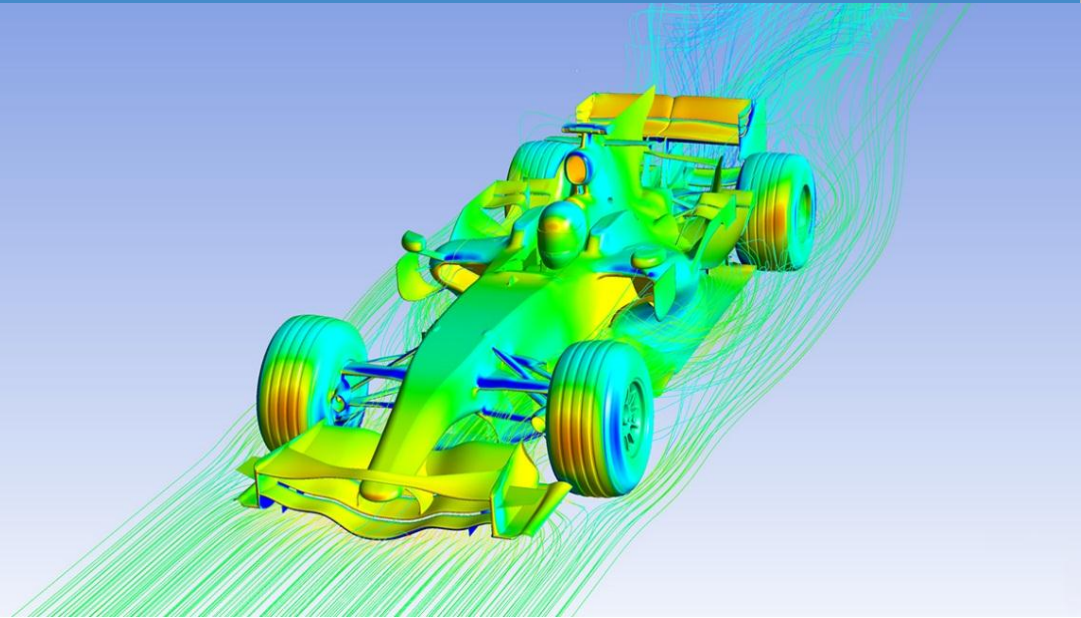M-12, OLD DLF Colony, Sec-14, Near-SBI Bank, Gurugram – 122001 (Haryana)

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- COUPLED FORCE CASE STUDY
- SOLID MODELING
- BASIC & ADVANCE MESHING
- MATERIAL PROPERTIES
- REPORT GENERATION
- MODEL CASE STUDIES

Day 1: Introduction
- ❖ Product Design cycle

Day 2: Before you start using ANSYS
- ❖ CAD/CAM/CAE
- ❖ Introduction to the Finite Element Method
- ❖ History/need/advantages/limitations of FEM/FEA
- ❖ Introduction to the ANSYS GUI

Day 3: Introduction of FEM
- ❖ Explanation of 1D, 2D and 3D Elements with examples of ANSYS Elements
- ❖ General Steps of the Finite Element Method
- ❖ Types of analysis that can be done using ANSYS

Day 4: About ANSYS Inc
- ❖ ANSYS Family of products with their capabilities
- ❖ Operation Modes of ANSYS
- ❖ Product Launcher
- ❖ Launcher Tasks
- ❖ Launcher Menu Options
- ❖ The Icon Toolbar Menu

Day 5: Solid Modeling
- ❖ An Overview of Solid Modeling Operations
- ❖ Working with Boolean operations
- ❖ Working Plane
- ❖ Importing of 3D models

Day 6: Introduction of Meshing
- ❖ Free meshing or mapped meshing
- ❖ Setting Element Attributes
- ❖ Element Type & Real Constants
- ❖ Defining Section Properties
- ❖ Assigning Element Attributes before meshing
- ❖ Mesh Controls

❖ The ANSYS Mesh Tool

Day 7: Meshing
- ❖ Smart sizing
- ❖ Meshing
- ❖ Free Meshing

Day 8: Advance meshing
- ❖ Mapped Meshing
- ❖ Hybrid meshing
- ❖ Volume Sweeping

Day 9: Material Properties
- ❖ Material Library
- ❖ Specifying properties
- ❖ Element type study.

Day 10: About Truss
- ❖ Truss Problems
- ❖ Analysis on Different types of Truss with springs support

Day 11: Boundary Conditions
- ❖ Types of Loads
- ❖ Applying loads

Day 12: About Beam
- ❖ Beam Problems

Day 13: About Bar
- ❖ Bar Problems

Day 14: About Plate
- ❖ Plate Problems

Day 15: Solvers
- ❖ Types of Solvers
- ❖ Solver Setup

- ❖ Load Step Options
- ❖ Solving Multiple Load Steps

Day16: Post-processing

- ❖ Contour Plot Viewing
- ❖ Path Operations
- ❖ Estimating Solution Error
- ❖ Time History Postprocessor (POST26)

Day 17: Report Generation

- ❖ Report Generator
- ❖ Using the Toolbar & Creating Abbreviations
- ❖ Introduction to APDL
- ❖ Using Parameters
- ❖ Using the Start File
- ❖ Using the Session Editor
- ❖ Using Input Files

Day 18: Sample Modal Analysis

Day 19: Problems on Modal analysis

Day 20: Sample Harmonic analysis

Day 21: Problems on Harmonic analysis

Day 22: Sample Thermal analysis

Day 23: Tips & Tricks

Day 24: ANSYS Workbench

- ❖ Introduction to ANSYS Workbench
- ❖ Graphical User Interface

Day 25: Static Case studies

- ❖ Static Structural Analysis
- ❖ Shear Stress and Bending Moment Diagram

Day 26

- ❖ Types of Meshing
- ❖ Material Library
- ❖ Gear and Rack Analysis

Day 27

- ❖ Modeling in Workbench
- ❖ Import to Geometry

Day 28 Parametric Study

Day 29: Model Case studies

- ❖ Modal Analysis
- ❖ Advanced Named Selections

Day 30: Thermal Case studies

- ❖ Thermal Analysis

Day 31: Transient Thermal

Day 32: Buckling

Day 33: Coupled Force Case studies

- ❖ Mixed Problems

Day 34:

- ❖ CFD introduction
- ❖ Simple Problem on CFD.

Day 35: Evaluation

- ❖ Project and review