

Finite Element Analysis – 14 days training course

Sl. No.	Topics
1.	FEA Definition and Process
	Discretizing and Characteristics of Finite Elements
	Degrees of Freedom
	Common FEA Assumptions
2.	Mesh Concerns
	Discretization Error and the Convergence Process
	FEA Preparation Using SOLIDWORKS
	Model Setup
3.	Analysis of Displacement, Strain, and Stress Results
	Analysis of Convergence Results
	Types of Convergence Analysis
4.	Singularities
	Verification and Validation of Results
5.	Control of Modelling Error
	Useful Modelling Techniques
	Types of Boundary Conditions
6.	Common types of FEA
	Modal Analysis
	Buckling Analysis
7.	Thermal Analysis
	Conducting nonlinear analysis
	Classifications of nonlinear behaviour
8.	Nonlinear Geometry Analysis
	Contact Stress Analysis
9.	Real-world constraints and loading
10.	Interpretation of stresses
	Static Condensation
11.	FEA and the product design process
	FEA for improved product performance
	Model simplification
	Finite element analysis optimization
12.	Interfacing between CAD and FEA
	Geometry
	Configuration
	Robustness
	Idealization Method
13.	Additional Applications of FEM
	Finite Elements for Elastic Stability

	Finite Elements in Fluid Mechanics
	Dynamic Analysis
14.	Project Management of an FEA Project