

Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Sessional	Final Exam	Total
CE-313	Structural Analysis Lab - I	PCC	1	0	0	2	50	0	50

Course Outcomes:

After completion of this course the students will be able to	
CO1	Determine deflection and slopes of beams.
CO2	Calculate the elastic properties of beam and displacement of curved beam.
CO3	Observe deflection of various joint trusses.
CO4	Use latest software to create and verify structural models.
CO5	Create model using Staad Pro to understand functioning of truss and tension member.

Lab Activities for Structural Analysis Lab - I

S. No.	Activities
1	Verify reciprocal theorem of deflection using a simply supported beam.
2	Compute vertical elastic displacements of curved members.
3	Determine horizontal elastic displacements of curved members.
4	Verify of moment area theorem for slopes and deflections of the beam.
5	Determine elastic properties of a beam.
6	Calculate deflections for truss- horizontal and various joints of pin- jointed truss.
7	Determine truss- vertical deflection for various joints of pin- jointed truss.
8	Create an interactive menu-driven model for members with concurrent 2D & 3D graphics generation.
9	Develop complex structural segment models using repetitive geometry.
10	Verify the model for frames under different loads and Illustrate with 2D/3D drawings.
11	Verify the model for different isometric elements and Illustrate with 2D/3D drawings.
12	Practice pull-down menus, tool-tip help, and floating toolbars with Staad Pro.
13	Practice important commands in Staad Pro for support specification, member offset, and member property Specifications.
14	Learn and practice release, offset commands.
15	Learn and practice truss only commands.
16	Learn and practice tension Only.