

Structural & Foundation Course Content

Overview: The design of tall buildings essentially involves conceptual design, approximate analysis, preliminary design and optimization to safely carry different loads acting on structure. The structural design for a skyscraper must ensure that the building is able to stand up safely, able to function without excessive deflections or movements which may cause fatigue of structural elements, cracking or failure of fixtures.

Day 1

Session 1:

- Lecture Session
 - Foundation Engineering
- Introduction
- Shallow Foundation
- Pile Foundation
- Overview of Caisson Foundation and Machine Foundation
 - Suitable foundation system for the structure
 - Different modes of Footing Failures
 - Design principles of Footing conforming to Indian Standards

Day 2

Session 1: Practical Session

- Industrial approach to projects
- Setting up different load cases
- Analysis and design of Isolated Footing
- Analysis and design of Combined Footing
- Analysis and design of Mat /Raft Footing
- Analysis and design of Flat Footing
- Reinforcement detailing of footing and slab
- Case studies on industrial projects