STRUCTURAL ANALYSIS & DESIGN OF SUPERSTRUCTURES USING ETABS
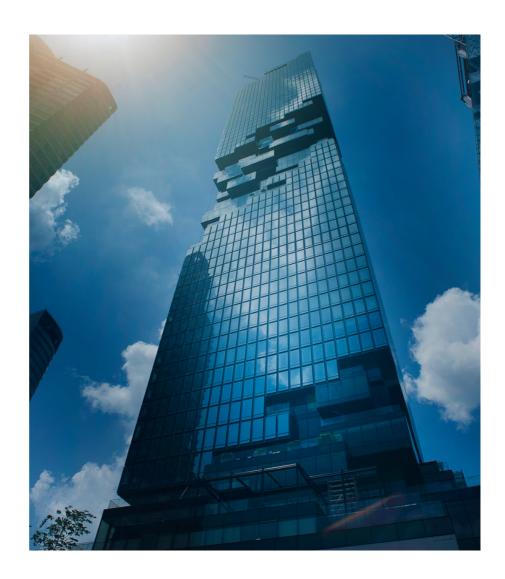
BY

A SQUARE CONSULTANTS
DESIGN FLAWLESSLY

Learn the complete structural design cycle of an project right from Scheme development,Load calculations, Structural Analyis, design and detailing of the project

MENTOR

Er. AHMAD ANAS

MTech Struct,

What you will learn from the course?

- Complete Understanding of Fundamental Principles of Structural Engineering and the properties of common structural materials.

- Explore the various loads and forces that act on a Structure, including Gravity, Wind, and Seismic Forces.

- Design Structural elements such as Columns, Beams, Slabs, and understand the importance of Proper creation between these Structural Elements.

- Learn to Master Etab modeling in a consulting way.

- Learn to prepare initial Structural Scheming like Column positioning & Orientation, Beam positioning, Slab sizing, etc.,

- Familiarize yourself with Relevant design codes and standards, and learn how to apply them in the design process.

- Advanced structural detailing rules with knowledge tips.

- You will be able to develop interview skills while you are learning.

- Level up your Structural Design career & Be job ready always.

- You will become an independent Engineer who can take decisions.

Who Can benefit from the Course?

- Engineers or Architects who are interested in specializing in Structural Design.

- Civil & Structural Engineering Students looking to be Job-Ready.

- Students who want to do Project & Thesis.

- Students studying Engineering or Architecture and looking to gain a deeper understanding of Structural Design principles.

- Professionals who want to change their career from Site Engineering to Structural Designing.

COURSE – CURRICULUM

The Course curriculum will be constantly updated according to industry developments to give you the most cutting-edge learning experience.

MODULE-1 : PREWORK

1. Introduction to R.C.C. Structures.

2. Ensuring Strength,Stability & Durability of an Structure.

3. Ensuring Crack & Deflection Control.

4. Understanding the Local axis system of Frame.

5. Understanding the Local axis system of Shell elements.

MODULE-2 : BUILDING SCHEMING

1. Floor Plan & Architectural aspects.

2. Column Positioning & Orientation.

3. Beam & Slab Positioning.

4. Member Sizing based on Thumb Rules and Codal Provisions.

MODULE-3 : INTRODUCTION TO ETABS SOFTWARE INTERFACE

1. Etabs Software Interface.

2. Defining Codal Provisions.

3. Material Definitions.

4. Column Definitions.- In depth.

5. Beam & Slab Definitions - In depth.

6. When & Why stiffness modifiers should be used ?

MODULE-4 : MODELLING OF GRIDS,COLUMNS,BEAMS & SLABS

1. Modelling Grids based on Architectural drawing.

2. Modelling Columns.

3. Modelling Beams.

4. Modelling Slabs.

MODULE-5 : ADDITIONAL OPTIONS

1. Model Editing.

2. Grid Visibility Controlling.

3. Staircase Modelling.

4. Graphic Preferences for better user interface.

5. Supports Assigning + Detailed Explanation about choosing support conditions.

6. Export + Import options.

7. Modelling Error check Prior to Load Application in Etabs.

MODULE-6 : GRAVITY LOAD CALCULATIONS AS PER IS CODE

1. Dead & Live Load understanding as per codal Provisions.

2. Super Imposed Dead Load Calculation.

3. Staircase Dead Load Calculation.

4. Dead & Live Load Application in ETabs

5. Creating Load patterns.

6. Creating Load Combinations for Gravity Loads as per IS Code.

MODULE-7 : RESULT ANALYSIS & DESIGN PRINCIPLES

1. Analysis & Deflection Check.

2. Bending Moments & Shear forces overview.

3. Beam Design Forces-Theory.

4. Beam Design Forces-Etabs.

MODULE-8 : SLAB DESIGN

1. Slab Design Concepts.

2. Slab Detailing Rules as per Code.

3. Manual Design of slabs

4. Etabs Design

MODULE-9 : BEAM DESIGN

1. Beam Design - Etabs.

2. Beam Design - Manual.

3. Beam Design & Detailing as per IS Codes.

4. Anchorage of Rebars (Additional Knowledge).

5. Sleeves Provision in Beams (Additional Knowledge).

MODULE-10 : COLUMN DESIGN

1. Introduction about Columns.

2. Column Design -Etabs.

3. Design Validation.

4. Column Detailing Rules.

5. Member size Validation based on Percentage of Reinforcement.

MODULE-11: SEISMIC & WIND ANALYSIS

1. Basic Understanding of seismic force on building.

2. Understanding IS1893 part1-2016.

3. Static Seismic load definition - Etabs

4. Static seismic Analysis -Etabs

5. Fundamentals of Modal Analysis & Mode shapes

6. What is Dynamic Seismic Analysis

7. Response Spectrum Analysis

8. Load Combinations as per- IS1893 part1-2016.

9. Modelling and Design of shearwalls.

10. Fundamentals of Wind Analysis.

11. Understanding the code IS 875 Part3 for Wind load calculation

12. Load calculation for wind

13. Wind Load for Individual Elements (Pressure Coeffecients)

14. Wind Load definition in Etabs.

MODULE-11 : ADDITIONAL KNOWLEDGE

1. What is Stiffness Modifiers & Why it is used ?

2. Equilibrium & Compatability Torsion.

3. Torsion Release in Etabs.

4. Membrane vs Shell Theory.

COURSE FEE & DURATION

Key Features

- ✓ Live + Recorded zoom sessions (**Life Time Access**).

- ✓ Course duration : 42 Days.

- ✓ Classes on Every Alternate Days (1.5-2hrs /day).

- ✓ **Thousands worth** of Study materials will be provided Free of charge.

- ✓ Design **Excel Sheets** will be Provided.

- ✓ We will give you **Extra Design projects** to help you gain more confidence in your Design skills.

- ✓ Mentors Chat Assistance.

PLANS & PRICING

PLAN STARTS FROM ₹44 PER DAY

9 Month

₹55/day 😮

₹14,999/-

- ✓ Thousands worth of Study materials will be provided Free of charge.

- ✓ 5 Extra Design Project will be Provided for Practice.

- ✓ Mentor's Support.

- ✓ Clarification through mail + Whatsapp chat.

- ✓ Design Excel sheets will be provided.

- ✓ Mentor support upto 9 months.

- ✓ One Time Payment.