

SPOT RCC STRUCTURAL DESIGN APPRAISAL- MANUAL/HAND CALCULATION [T001]

SPECIALITIES IN THIS TRAINING

- **SP INSTITUTE** Since 2011 owned by **SP STRUCTURES** (Civil & Structural Consultancy), Chennai.
- **SP INSTITUTE** Chief Executive Er.P.Sabarinathan (Trainer) Student of **Prof. A.R.Santhakumar IIT(M)**
- Acquire knowledge on Basics of RCC Analysis and Design based on IS 875 Part 1- Part 5 IS 456 and SP16
- Interpreting the analysis results and Justifying the behaviour of structural elements and structures
- Understand the Behaviour of RCC Elements and Structures
- **Unlimited Period of Training**
- Experience Certificate
- Demonstration ETABS V19, SAFE V16.0 and RCDC
- Govt. of INDIA **UDAYAM MSME Registration** UDAYAM- TN-02-0027071 Certificate
- Placement reference for Students/Engineers
- **SP STRUCTURES** office environment exposure

SOFTWARE LICENSES

The Latest software owned by **SP INSTITUTE**

- **ETABS**
- **RCDC and RCDC FE**
- **SAFE**

MODE OF TRAINING

- **At Respective Training Center (Offline)**
- **Online**



INSTRUCTIONS

- 1.Students/ Engineers must bring their own laptop, pen drive Mouse etc.,
- 2.The Internet Speed must be Good

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SESSIONS

SESSION-1 ABOUT THE PRACTICAL STRUCTURAL DESIGN

SESSION-2 STRUCTURAL PLANNING IN PROPOSED ARCHITECT PLAN

- a. POSITION AND ORIENTATION OF COLUMN
- b. POSITION OF BEAMS
- c. SPANNING OF SLABS(ONE WAY / TWO WAY)
- d. LAYOUT OF STAIR
- e. SELECTION OF APPROPRIATE TYPE OF FOOTING BASED ON SOIL REPORT

SESSION-3

3.1. ACTION OF FORCES

- a. AXIAL b. BENDING c. SHEAR d. TORSION

3.2.COMPUTATION OF LOADS

As per following Codes

- a. IS 875 PART-1 –DEAD LOADS
- b. IS 875 PART-2-LIVE/IMPOSED LOADS
- c. IS 875 PART-5-LOADS AND LOAD COMBINATIONS

3.3.TYPES OF SUPPORTS

- a. SIMPLY SUPPORT WITH EXAMPLE
- b. FIXED/ RIGID WITH EXAMPLE
- c. CONTINUOUS WITH EXAMPLE
- d. CANTILEVER WITH EXAMPLE
- e. OVERHANG WITH EXAMPLE

SESSION-4

4.1 ANALYSIS OF SLAB

- a. ONE WAY SLAB CONTINUOUS AS PER IS 456 TABLE 12
- b. TWO WAY SLAB CONTINUOUS AS PER IS 456 TABLE 26

4.2 ANALYSIS OF BEAM

- a. CONTINUOUS BEAM ANALYSIS AS PER IS 456 TABLE 12

4.3 COLUMN AXIAL LOAD

- a. COLUMN AXIAL LOAD AS PER INFLUENCE AREA METHOD

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SESSION-5 PRELIMINARY ASSUMPTIONS USING IS 456 AND THUMB RULE

- a. HOW TO CALCULATE THE SLAB THICKNESS?
- b. HOW TO CALCULATE THE BEAM DEPTH?
- c. HOW TO CALCULATE THE FOUNDATION DEPTH?

SESSION-6 SLAB DESIGN AND PANEL CLASSIFICATIONS AS PER IS 456:2000 TABLE.26

- a. ONE WAY SLAB –CONTINUOUS AND SIMPLY SUPPORTED
- b. TWO WAY SLAB- CONTINUOUS AND SIMPLY SUPPORTED
- c. CLASSIFICATIONS OF SLAB PANEL AS PER TABLE.26 OF IS 456:2000
- d. DEFLECTION CALCULATION AS PER CL.23.2. OF IS 456:2000
- e. DEVELOPMENT LENGTH AND ANCHORAGE CALCULATION

SESSION -7 BEAM DESIGN AS PER IS 456 AND SP 16

- a. SINGLY REINFORCED BEAM
- b. DOUBLY REINFORCED BEAM
- c. DEFLECTION CALCULATION
- d. DEVELOPMENT LENGTH COMPRESSION AND TENSION

SESSION -8 COLUMN DESIGN AS PER IS 456 AND SP 16

- a. AXIAL COLUMN DESIGN
- b. UNIAXIAL COLUMN DESIGN
- c. BIAXIAL COLUMN DESIGN
- d. EFFECTIVE LENGTH OF COLUMN AS PER IS 456 ANNEXURE –E

SESSION-9 FOOTING DESIGN AS PER IS 456

- a. RECTANGULAR FOOTING
- b. SQUARE FOOTING
- c. DEVELOPMENT LENGTH

SESSION-10 –STAIR CASE DESIGN AS PER IS 456

- a. CALCULATION OF LOADS ON STAIR
- b. DISTRIBUTION OF LOADS ON BEAM

SESSION-11 PRACTICAL THUMB RULE FOR ESTIMATING ELEMENT SIZES

SESSION-12 IS Codes

Discussions on IS Codes