

SYLLABUS FOR PRACTICAL STRUCTURAL DESIGN APPLICATION COURSE

WELCOME TO GURURAYAR ASSOCIATES



PRACTICAL STRUCTURAL DESIGN WEBINAR

Live project training on RCC G+9 building

Factory steel structure with foundation, pile, pile cap manual design calculations

in XL sheet and in Etabs, RCDC and SAFE softwares

Whatsapp (only) : +91 9629121300

www.gururayarassociates.com



Overall Contents Of Practical Structural Design Application Course (PSDAC) Syllabus:-

- ▶ Structural design basics & concepts Theory in practical way .
- ▶ Practical Loading Calculation f(Gravity &Lateral) or RCC & STEEL Structures.
- ▶ Manual Design of RCC Superstructure (Slab,Beam,Column) in XL.
- ▶ Manual Design of RCC Sub-structure (Shallow & Deep Foundations)in XL.
- ▶ Etabs software design of RCC G+9 building.
- ▶ RCDC software automated detail drawings generation.
- ▶ SAFE software combined and MAT footing design.
- ▶ Manual design of STEEL super structure (Deck plate, Beam, Column) in XL.
- ▶ Manual design of all types of steel structure connections in XL.
- ▶ Etabs software design of Ware house STEEL structure with 5 ton EOT crane.
- ▶ PEB steel structure conceptual design in Etabs software.

SYLLABUS FOR PRACTICAL STRUCTURAL DESIGN APPLICATION COURSE

GENERAL PART:-

- Conceptual Application of Structures in Residential, Commercial and Industrial fields.
- Introduction of Basics of Structures & Technical terms
- IS codes for various analysis, design and detailing & Small Frame Analysis Load transfer concept in in XL sheet.
- Gravity Load manual calculations (DL,LL,FF,EQPL) in XL sheet.
- Wind & Seismic load manual calculations in XL sheet.

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RCC DESIGN PART:-

- One Way Slab manual Design in XL sheet.
- Two Way Slab manual Design in XL sheet.
- Beam manual Design (Singly and Doubly reinforced beams) in XL sheet.
- Column manual design(Axial Gravity, Uniaxial, Biaxial Bending types) in XL sheet.
- Staadpro OR Etabs analysis and design software intoduction,input through Various tab,modelling.

(Contd..)

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RCC DESIGN PART:- (Contd..)

- Staadpro OR Etabs analysis and design of slabs, beams and columns.
- Staadpro OR Etabs result extraction and minor manual exceptional checks that are not covered in software.
- Ductile & Non-ductile frame design.
- Footing manual Design in XL sheet.
- Footing design in RCDC software
- Pile cap manual conceptual design in XL sheet.
- Pile reinforcement manual Design in XL sheet.

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- Pile cap design in RCDC software.
- Combined & Mat Foundation design SAFE software. (This is special inclusion for timely fee-paying persons only)

STEEL DESIGN PART:-

- Introduction to steel Structures.
- Industrial Building Steel Truss conceptual design.
- Tension Member manual design in XL sheet.
- Compression Member manual design in XL sheet.

(Contd...)

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STEEL DESIGN PART:- (Contd..)

- Flexural Member manual design in XL sheets.
- Tension, Compression and Flexural members design in staadpro OR Etabs software.
- Various Connections in manual Design in XL sheets.
- Connections design in Etabs OR Staadpro.
- Lifting analysis of Padeye through FEM method in staadpro
- Built up beam in Staadpro OR Etabs.

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PROJECT WORK:-

RCC:-

- Design of G+9 building

STEEL:-

- Design of Industrial Storage Building

Project submission, Review and Q&A.

BENEFITS OF THIS TRAINING.

- ▶ DUE TO ONLINE, IT SAVES TRAVEL TIME, ENERGY AND REALATED EXPENSES.
- ▶ ONE YEAR BACKUP CONSULTATION SUPPORT FOR THEIR OFFICE WORKS ENTENDED FOR TRAININED CANDIDATES.
- ▶ CLEAR UNDERSTANDING OF CIVIL & STRUCTURAL DESIGN PROCESS.
- ▶ EXPERTIZATION IN MANUAL CALCULATIONS.
- ▶ EXPERTIZATION IN DESIGN SOFTWARES LIKE STAAD/ETABS/SAFE Etc.,
- ▶ KNOWLEDGE IN CURRENT INDUSTRY WORK CULTURE.
- ▶ IMMEDIATE TAKE OFF WHEN JOB IS ASSIGNED, NO PRE-TRAININGS REQUIRED FROM JUNIOR LEVEL.
- ▶ ABILITY TO BECOME SENIOR/LEAD LEVEL WITHIN ONE YEAR OF JOB ASSIGNMENT.
- ▶ EXPERTIZATION IN CONSTRUCTION PROBLEMS SOLVING.
- ▶ EXPERTIZATION IN QUICK SOLUTIONS AT SITE.

MODE & DURATION OF COURSE

Mode:

Online mode through skype or webex or team viewer platform with screen sharing mode.

Duration:

Course duration will be 6 Months with 60 hrs in which direct teaching will be 45 hrs and rest is for assignment verification and guidance/clarifications. Classes will be 1 hr duration on every alternate day.

COURSE FEE & PAY TERM DETAILS

TOTAL COURSE FEE TO BE PAID WILL BE :

Rs.40,000/- or 600 USD in 12 Instalments. (Conditions apply for trainees from more than 3 hrs time zone varying countries)

FEE PAYMENT TERMS:-

Advance enrolment fee payment of Rs.4000.- is necessary to pay through either website payment link <https://payments.gururayarassociates.com/enrollment> or phonepay/gpay no. 9629121300 or by bank account Name B.PadmavathyA/c No. 33132308432IFSC code: SBIN0001983State bank of India,Srirangam Branch,Trichy, Tamilnadu. One can pay every 10 days once AFTER completion of 10 days classes. Failure of payment of fees after 10 days class, will lead to temporary pause of course. After paying the due if any such, the classes will be resumed accordingly.

Visit:www.gururayarassociates.com www.facebook.com/gururayar1 or mail to gururayarassociates@gmail.com for further details.

Office Whats app No:- +91-9629121300.

Following Practical Structural Design points we teach in our ONLINE Structural Design training:-

1. Load transfer sequence and technique in a structure.
2. Limitations of all design and detailing software's.
3. How Fix, pin end conditions are to be constructed at site.
4. What are the effects of interchanged end condition at site.
5. What and how are the construction loads to be added in structural design, which are not said by any codes.
6. Practical layout of re-bars in slabs based on BM diagrams.
7. How to assume the parameters in design and reconfirm the assumptions.
8. How to prepare the beam and column layout drawings as per Architectural drawings.
9. How to orient the columns according to major and minor axis BM's.

Following Practical Structural Design points we teach in our ONLINE Structural Design training

10. How to structurally rectify the deflection failures in constructed beams.

11. How to rectify the buckling failures in constructed columns.

12. How to redesign any columns or beams to increase the sizes after construction.

13. How to give input to the structural design softwares according to site condition.

14. How to read the output of structural design softwares and understand them for detailing.

15. How to do the ductile and non-ductile designs in Siesmic zones.

16. How to create a structural analysis model from scratch say from architectural drawing.

17. Why the section classification check has no elastic stage.

Following Practical Structural Design points we teach in our ONLINE Structural Design training

18. What are the meanings of Plastic, compact and semi-compact stages.
19. What is diaphragm and how to define in practical way.
20. P-Delta analysis in practical way.
21. How to design steel structures without bracing.
22. Practical concepts of Connection load calculation.
20. What are the different partial end conditions and how to practically model in software.
21. How to avoid slenderness of steel beam and columns without increasing section geometry.
22. Practical concepts of all type of foundations including pile cap.
23. Thermal and shrinkage Crack checks.
24. Practical examples of Strength design and serviceability designs.

Following Practical Structural Design points we teach in our ONLINE Structural Design training

25. How to prevent Sliding and Overturning failures in foundation designs.

26. PEB structures design.

27. FEM analysis of a lifting pad eye hook, that is used to lift steel beams in site works.

28. How to create detailed drawings from structural software's.

29. Stages and sequences of construction according to design phases.

30. Stages of checks in structural drawings and calculations, with check list.

Hope to see you soon....

.....THANK YOU.....