



PG Diploma in
**RCC STRUCTURE &
BIM TECHNOLOGY**

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INTRODUCTION

we are designer engineer architecture planner technical specialists and trainer. we operate in the innovation and revolutionary changing field of designer and engineering construction installation and infrastructure educational services rank top in relate with civil/structure/infrastructure



We have a global community of engineers, technician and expert to deliver quality of training and services community of 10000+ and still counting Our trainee are from South east Asia Europe, Australia and UAE.

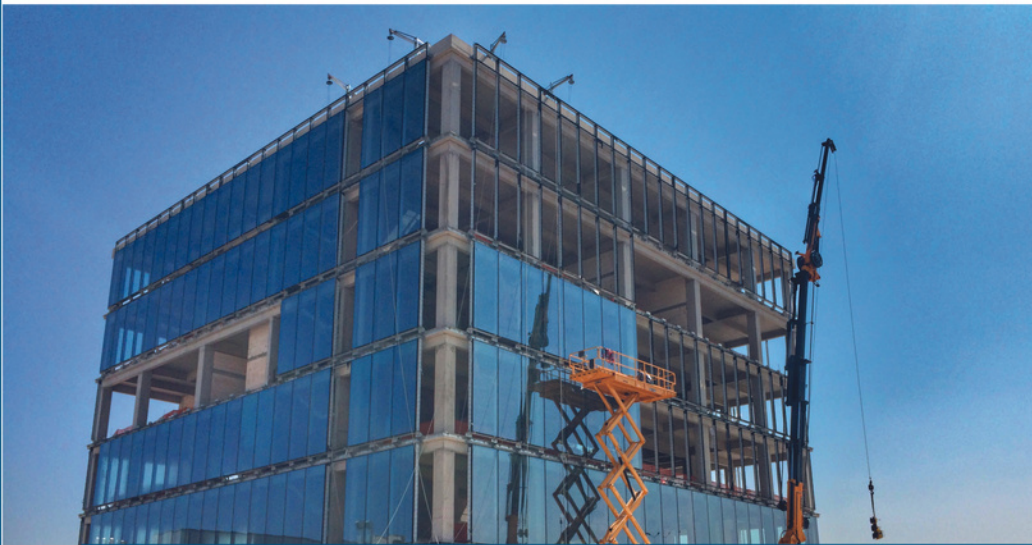
Our corporate training program and engineering educational services ranked top in INDIA and all over the world by most recognized organizations. We provide courses relate with civil/structural/infrastructure engineering.

ABOUT PROGRAM

PG Diploma in RCC Structure & BIM Technology

is a full flange training program which enable you to carrier in different technical positions due to technical advancement in design and engineering worldwide professional qualification are not satisfying current MNC company job demand so structurex department of corporate training design this course for professional, fresh Graduate and Technical Specialist. Real challenge for Engineers and technical

specialist are increasing day by day due to project complexity and environment factor by adapting data driven technology this course enable you to accept that challenges



STRUCTURE ANALYSIS & DESIGN

RCC STRUCTURE Analysis & Design is a complex process of implementing engineering solving complex problem and challenge. n this program we follow steps by steps analysis and design process with theory codes concept and software. We also focus on sustainable technology and digital twins, on current industry Demand . Performing Deep Research with various national& International Code of Practice , Research and Journals.

Building Information Modeling (BIM) is the holistic process of creating and managing information for a built asset. Based on an intelligent model and enabled by a cloud platform, BIM integrates structured, multi-disciplinary data to produce a digital representation of an asset across its lifecycle, from planning and design to construction and operations.

CORPORATE TRAINING PROCESS

STRUCTUREX Pvt. Ltd. Online program learning providing best project based and career oriented training to fresher and experienced engineer. We focus on core and latest technological approach to provide best career oriented training. Quality management and critical engineering is our backbone. Fresh collage graduate have a great opportunity to start career and get placed in their desire company, **With our PGD, MASTER and SKILL Certification Program.**

Online training Process



EXCLUSIVE CAREER SUPPORT

STRUCTUREX provide a life time career assistance to ensure candidates success and getting Placed.



Live Career-Oriented Webinars

Live webinar sessions that include curriculum and career services walkthrough to help learners understand their learning objective and expectations of hiring managers.



Leadership Skill Development Sessions

Recurring training sessions with experts to help learners develop Interpersonal and Leadership Skills.



1-on-1 Career Mentoring Sessions

One-on-one Career Mentoring sessions on how to develop the right skills and attitude to secure a dream job.



Exhaustive Interview Preparation

Expert tips, sample interview questions, mock interviews with constructive feedback from industry experts to gain hands-on experience of technical rounds, HR round, and more.



Job Search Assistance & Job Feeds

Access to multiple job portals to help learners navigate through thousands of jobs including global remote jobs.



Profile Building Assistance

A dedicated Career Coach will provide expert tips on how to create an attractive, relevant resume and LinkedIn Profile.

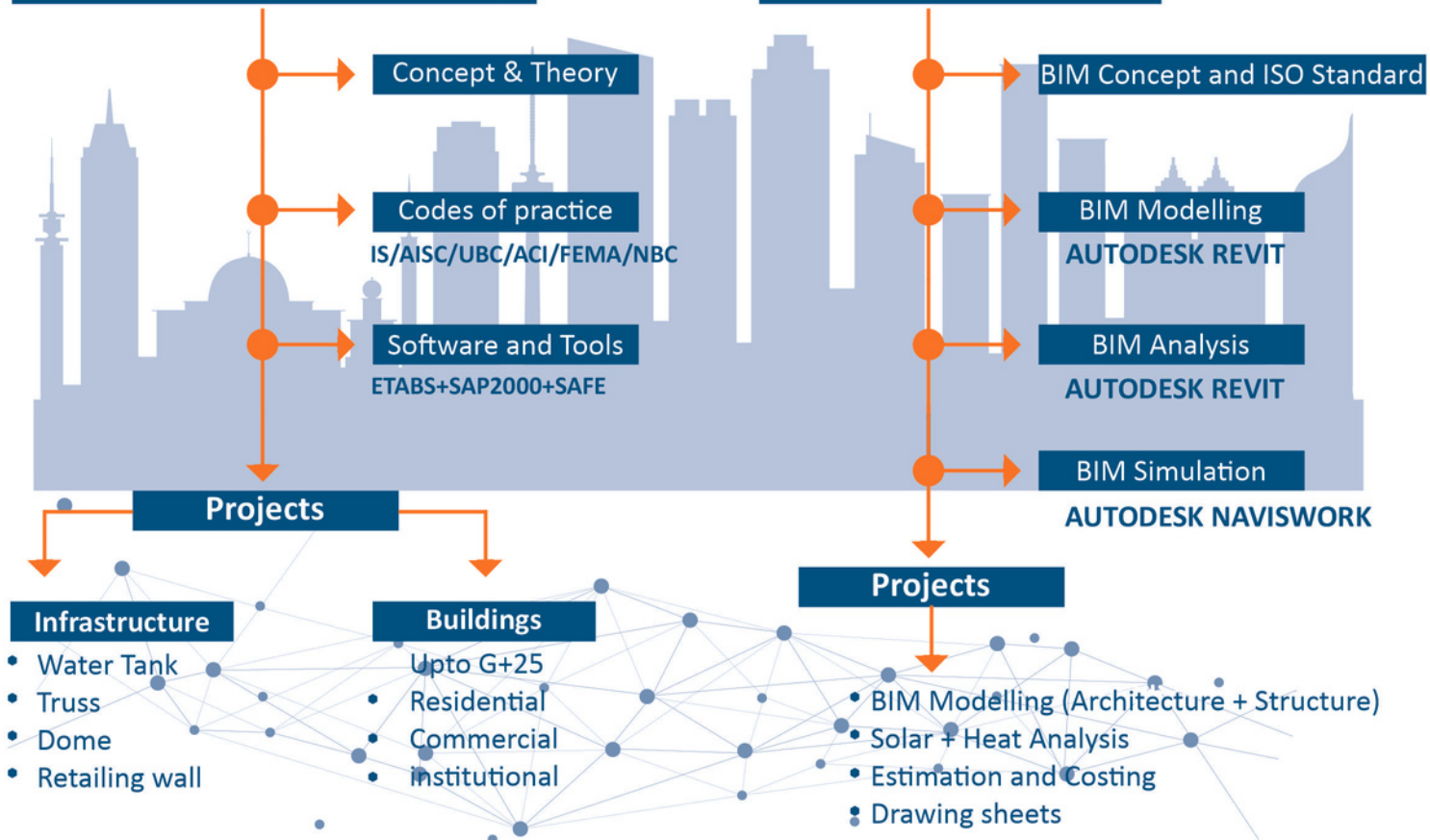
PROGRAM OUTLOOK

Basic to medium

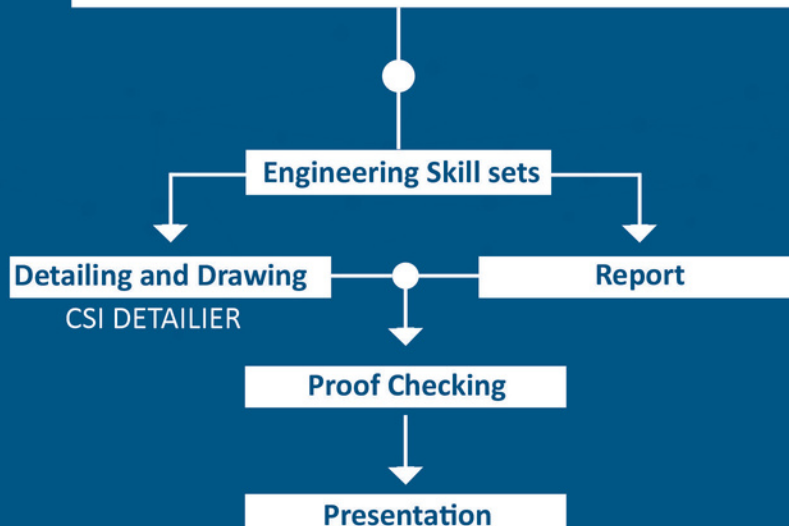
BIM Technology

Structure Analysis and Design

3D 4D and 5D



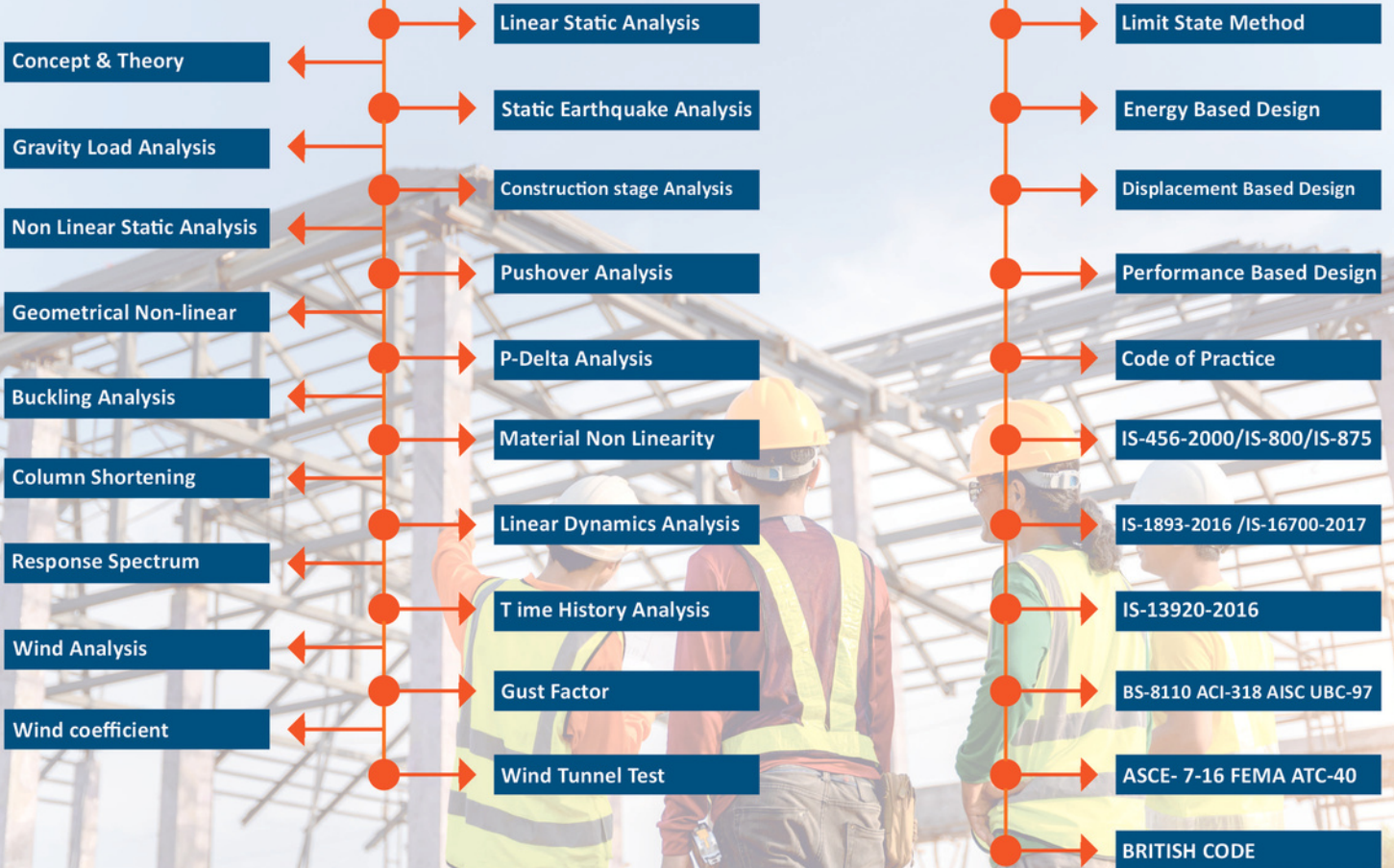
Report and Finalization



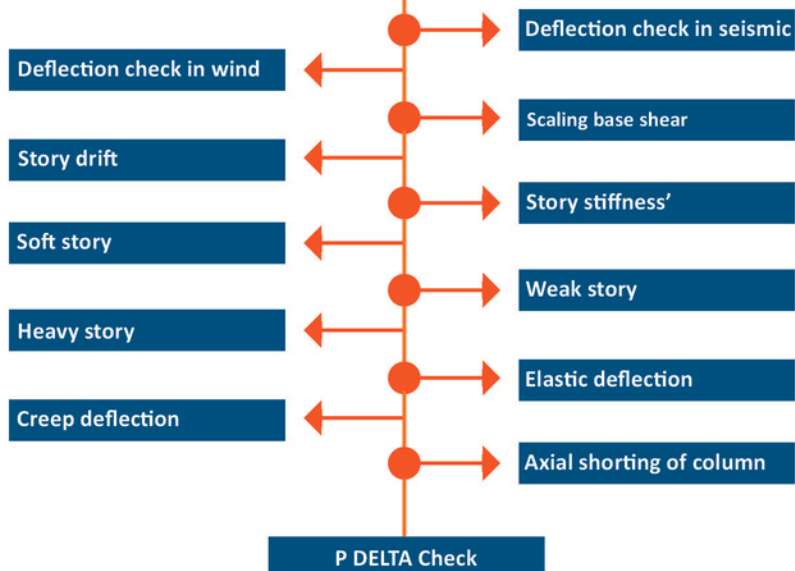
SUPER STRUCTURE ANALYSIS AND DESIGN

Analysis

Design



Checks



SUB-STRUCTURE & SLABS DESIGN & ANALYSIS

Analysis & Check

- FEA Analysis
- Load Combinations
- Automatic Mesh.
- Stiff Areas
- Check The Deflection
- Check The Punching
- Stability Check
- efficient in seismic.

Foundation design

- Pad Foundation
- Strip Foundation
- Raft Foundation
- Stepped Foundation
- Caisson Foundation
- Drilled Shaft Foundation
- Pile Foundation

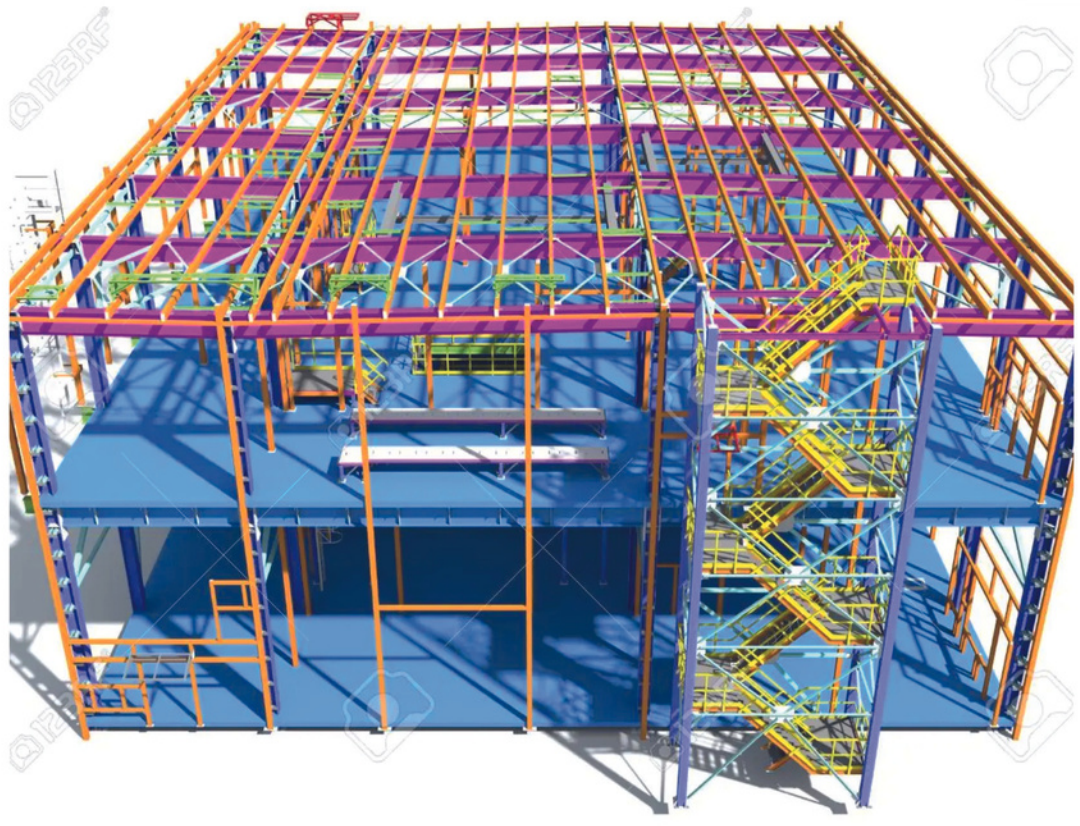
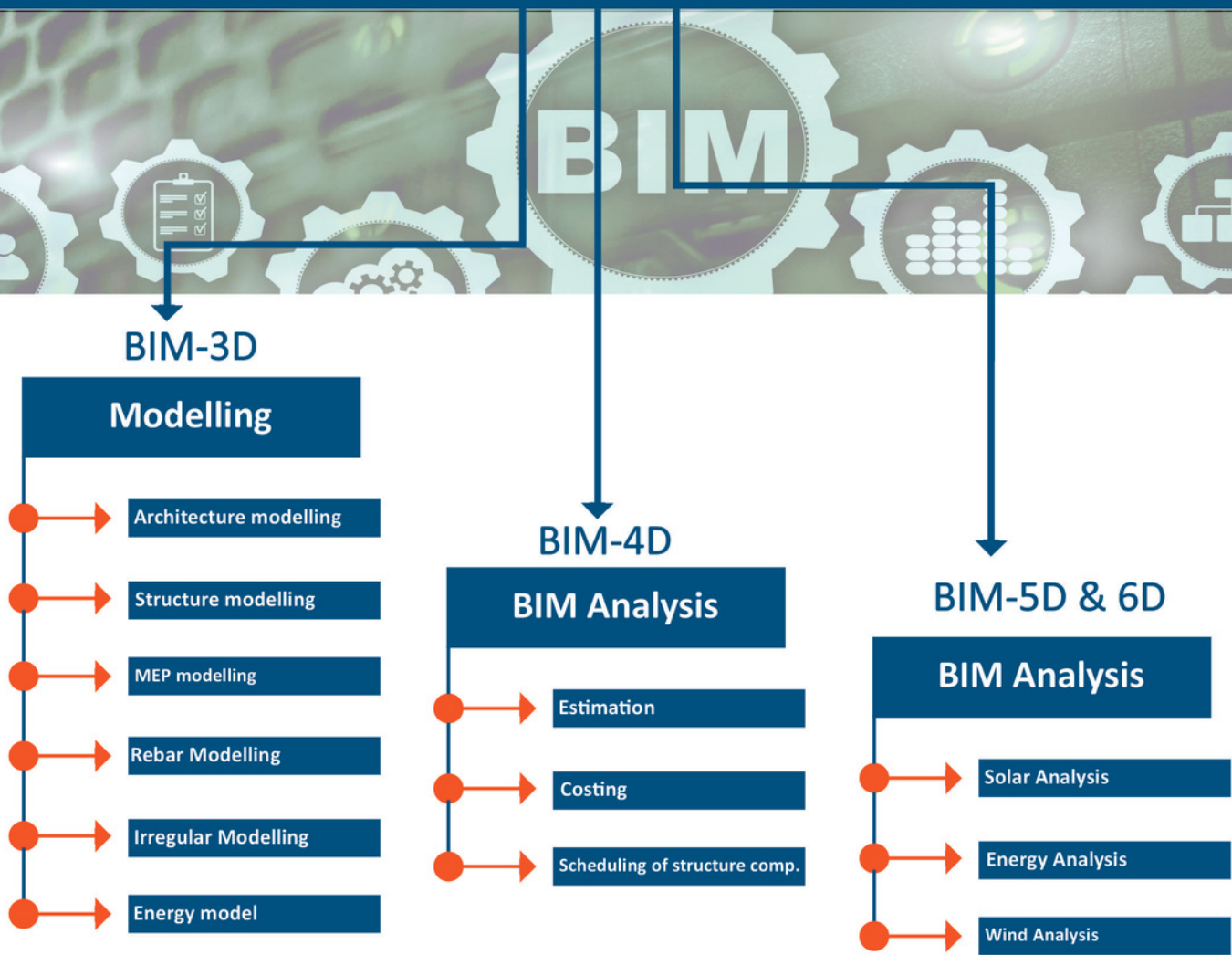
Foundation design

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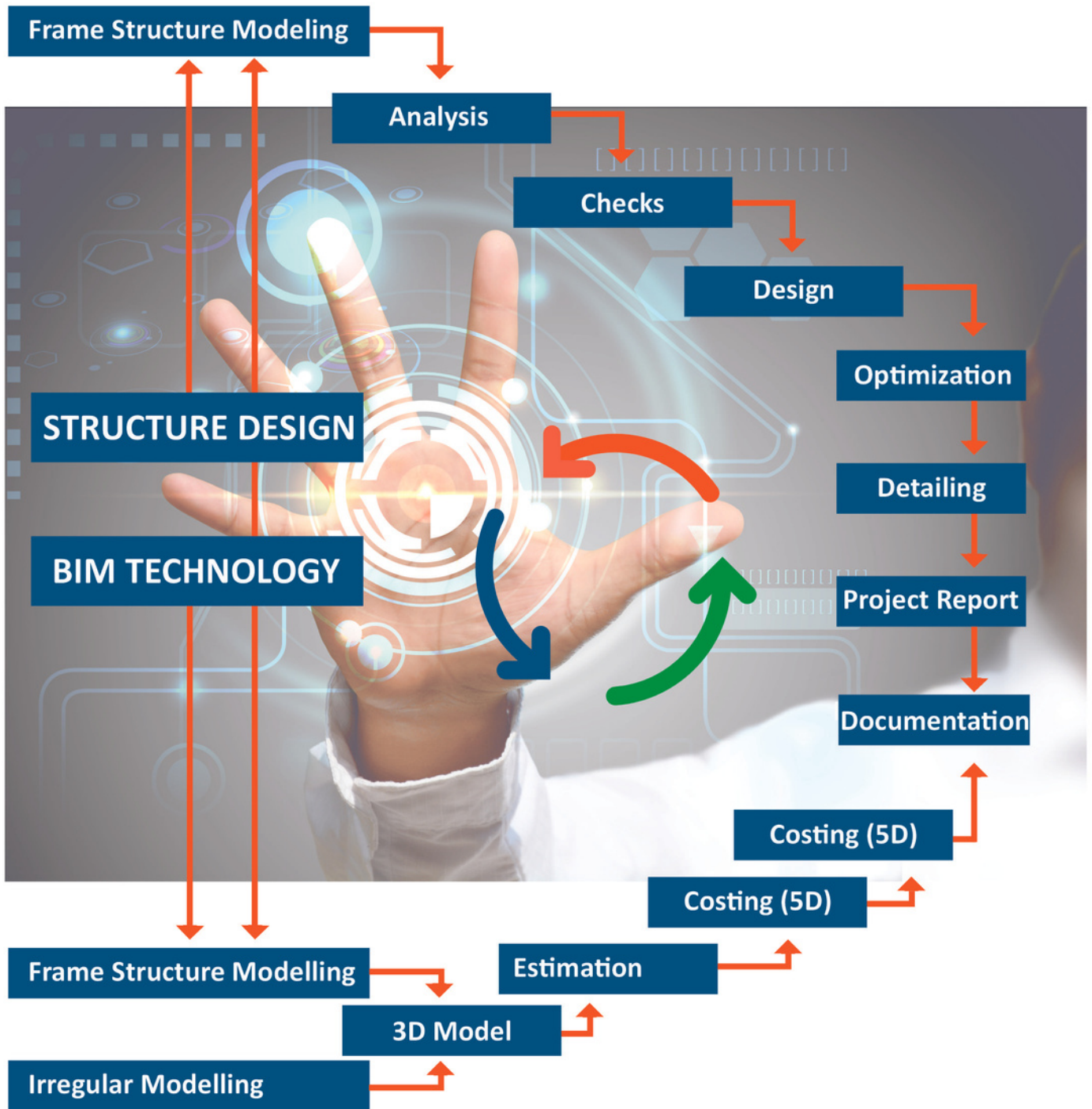
Projects

- G+6 Residential
- G+5 Hospital structure
- G+10 Residential structure
- G+15 Commercial structure
- G+23 Tower
- G+40 Tower Structure
- G+50 Tower (Tube structure)
- Twin Tower
- Outrigger Structure
- Undergrounds Water Tank
- Retaining Wall
- Over headed Water Tank
- Dome Structure
- Truss Structure
- Staircase
- G+ 20 Diagrid Structure
- G+80 Case Study

BIM TECHNOLOGY



STRUCTURE & BIM COLLABORATION



PROCESS INVOLVE TO DELIVER PROJECTS



Report (Management)



Design (Codes and Concept)



Analysis (Codes and conceptual)



BIM (Building information modelling)



Concept design

LEARNING MODULE OF PROGRAM

Module 01 FUNDAMENTAL, CODE ANALYSIS AND DESIGN OF SUPERSTRUCTURE

Module 02 ANALYSIS AND DESIGN OF SUBSTRUCTURE AND SLAB

Module 03 BIM TECHNOLOGY 3D,4D,5D

Module 04 RESEARCH AND DEVELOPMENT OF SUPER TALL STRUCTURE

Module 05 DETAILING OF RCC STRUCTURE

Module 06 DOCUMENTATION AND REPORT

CSI ETABS

CSI SAFE

CSI SAP2000

CSI DETAILER

AUTODESK NAVISWORK

AUTODESK REVIT



MODULE:01 SUPER STRUCTURE DESIGN AND ANALYSIS

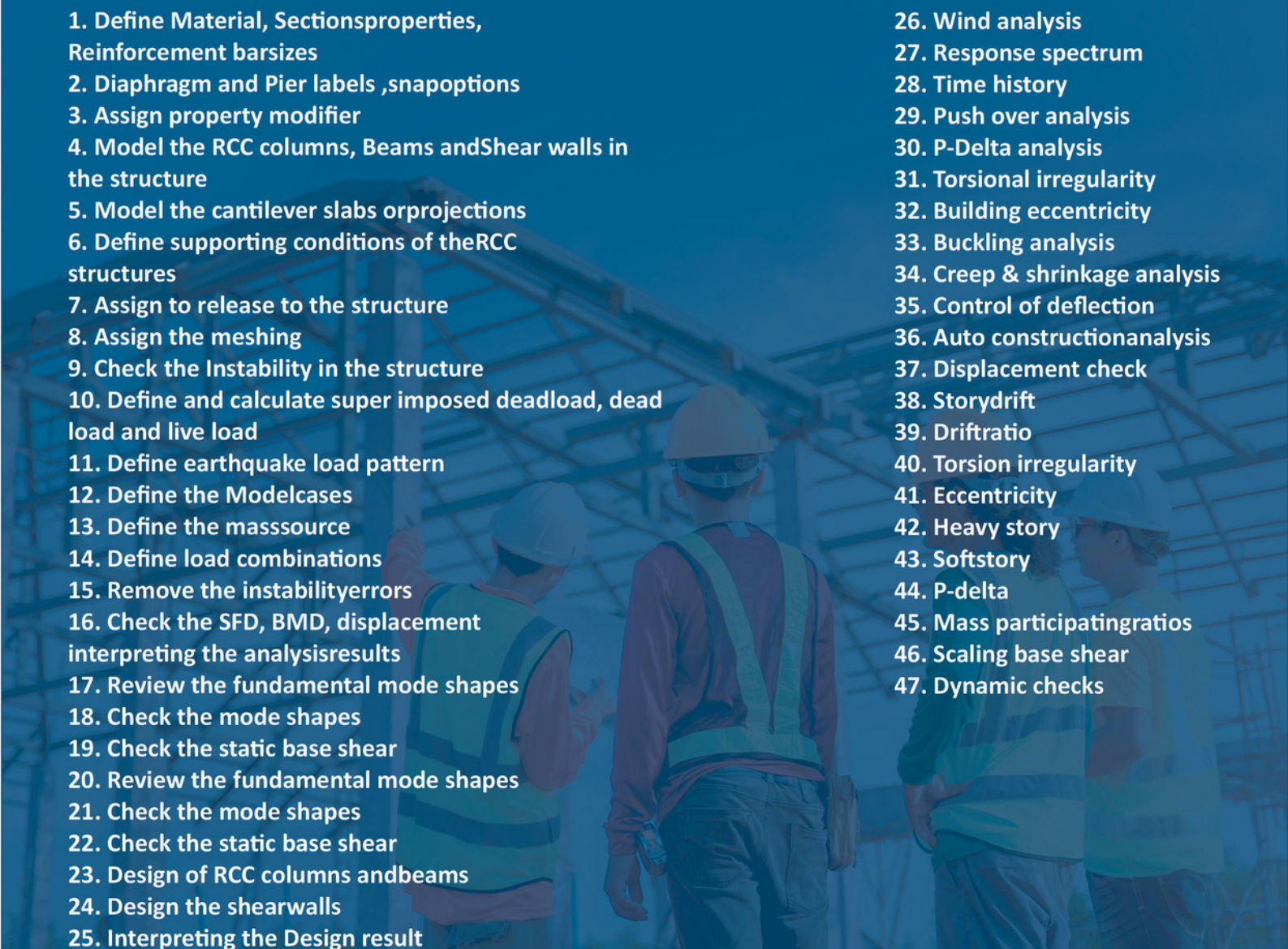
Structure Fundamental: FEA/FEM (Finite element analysis/Method), Mathematical approach to structure, model Eigen value and Eigen vector, Shell and membrane concept, Diaphragm Modal Analysis, Earthquake engineering, Seismic Analysis, Wind Analysis etc.

Code of practice:

IS Code: IS-456-2000, IS-800 IS-875 (Part-1,2,3), IS-13920-2016, IS-1893 2016, IS-13920, Is16700,

International Code: BS 8110 ACI318 CEBFIP 2010 UBC 97 ASCE 7-16 FEMA and other relevant

CSI ETABS : Basic to advance.

- 
1. Define Material, Sections properties, Reinforcement barsizes
 2. Diaphragm and Pier labels ,snapoptions
 3. Assign property modifier
 4. Model the RCC columns, Beams and Shear walls in the structure
 5. Model the cantilever slabs or projections
 6. Define supporting conditions of the RCC structures
 7. Assign to release to the structure
 8. Assign the meshing
 9. Check the Instability in the structure
 10. Define and calculate super imposed deadload, dead load and live load
 11. Define earthquake load pattern
 12. Define the Model cases
 13. Define the mass source
 14. Define load combinations
 15. Remove the instability errors
 16. Check the SFD, BMD, displacement interpreting the analysis results
 17. Review the fundamental mode shapes
 18. Check the mode shapes
 19. Check the static base shear
 20. Review the fundamental mode shapes
 21. Check the mode shapes
 22. Check the static base shear
 23. Design of RCC columns and beams
 24. Design the shear walls
 25. Interpreting the Design result
 26. Wind analysis
 27. Response spectrum
 28. Time history
 29. Push over analysis
 30. P-Delta analysis
 31. Torsional irregularity
 32. Building eccentricity
 33. Buckling analysis
 34. Creep & shrinkage analysis
 35. Control of deflection
 36. Auto construction analysis
 37. Displacement check
 38. Story drift
 39. Drift ratio
 40. Torsion irregularity
 41. Eccentricity
 42. Heavy story
 43. Soft story
 44. P-delta
 45. Mass participating ratios
 46. Scaling base shear
 47. Dynamic checks

MODULE:02 SUB- STRUCTURE & SLAB DESIGN AND ANALYSIS

CSI SAFE : Basic to advance

- Software algorithm, capabilities, strength and weaknesses,
- Modelling of foundations, basements, footings,
- Modelling through import method 2d import, 3d import,
- Design of strips
- Design methodology,
- Design of fem based slabs,
- Design of slabs, raft & pile,
- Design of punching shear reinforcement (stud rails).
- Detailing, reporting techniques.
- Codes & software interaction by considering national.
- Differential settlement of foundation and its control.
- Combined complex foundation system
- Punching Shear
- Nonlinear Uplift
- Soil Structure Interaction
- Mastering the analysis & interpreting the results
- Stability check as per code
- Check on lateral Stability
- Check on Vertical Deflection
- Check on Story Drift
- Check for Over turning Moment
- Check for Control of Deflection
- Modal Analysis Checks

MODULE:03 BIM 3D 4D & 5D

BIM Technology: Applying BIM (Building Information Modelling) is a major part of training Like

- ISO Standard for BIM
- BIM (Building information modelling) for structure and Architecture
- BIM Analysis : Energy, wind and heat analysis.
- BIM Advance: 4D and 5D
- **Software : Autodesk Revit and Autodesk Navisworks.**



Building Information Modeling (BIM)

Revit BIM (Building Information Modeling) software to drive efficiency and accuracy across the project lifecycle, from conceptual design, visualization, and analysis to fabrication and construction. Begin modeling in 3D with accuracy and precision. Automatically update floor plans, elevations, and sections as

A screenshot of the Autodesk Revit software interface. The central part shows a 3D perspective view of a building's structural framework, including columns and beams. On the left, there is a 'Project Browser' pane with a tree view of project elements like 'Structure', 'Systems', and 'Rooms'. On the right, there is a 'Properties' pane with various settings for the selected element.

COLLABORATE ACROSS TEAMS, DISCIPLINES, AND TIME ZONES

Revit is BIM software that brings all architecture, engineering, and construction disciplines into a unified modelling environment, driving more efficient and cost-effective projects.

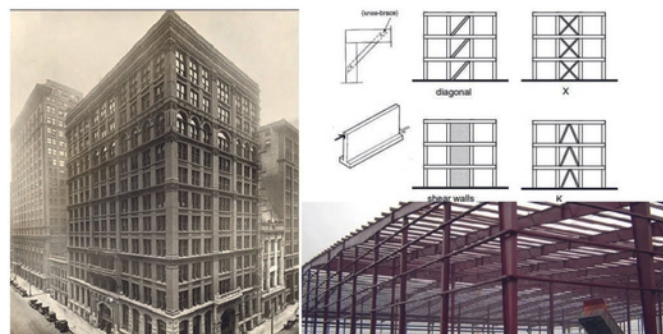
EXTEND BIM WORKFLOWS AND SAVE WITH REVIT IN A COLLECTION

The Architecture, Engineering & Construction Collection provides designers, engineers, and contractors BIM and CAD tools that support projects from the studio to the jobsite.



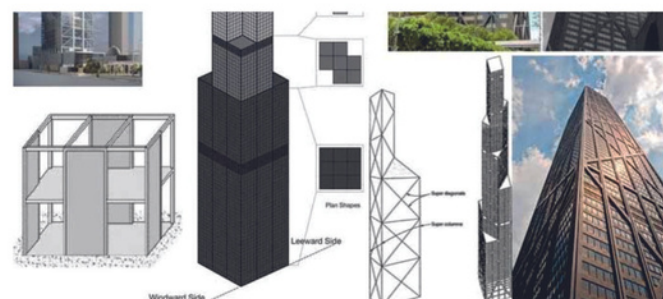
1. BRACED FRAMES

Braced Frames have much better strength and stiffness Bracing is a much effective than rigid joints at resisting racking deformation of the frame.



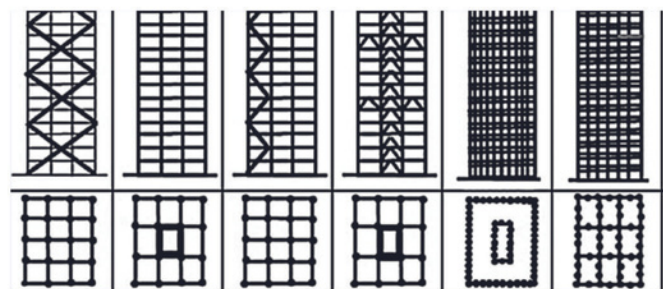
2. TUBE SYSTEM

The tube is the name given to the systems where in order to resist lateral loads (wind, seismic, etc.) a building is designed to act like a three-dimensional hollow tube.



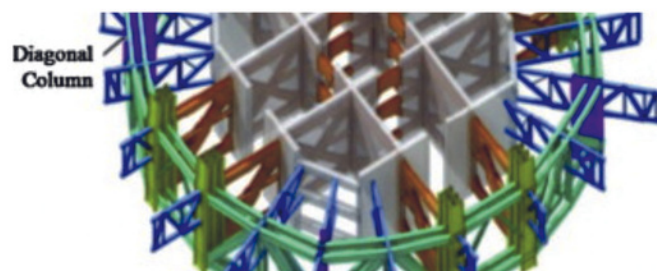
3. BRACED TUBE SYSTEM

Also known as 'Trussed Tube' or 'Exterior Diagonal tube System' utilized for greater heights, and allows larger spacing between the columns.



4. OUTRIGGER TRUSS SYSTEM

The diagrid (a portmanteau of diagonal grid) is a framework of diagonally intersecting metal, concrete or wooden beams that is used in the construction of buildings and roofs.



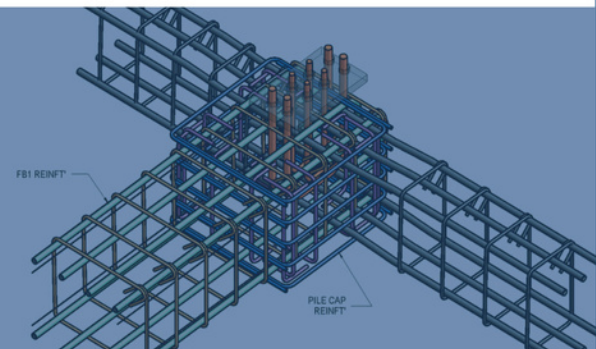
MODULE:05 DETAILING OF RCC STRUCTURE

CSI Detail is an integrated and interactive software product for generating detailing output, such as detailed views, drawings, bills of materials (BOM), and bills of quantities (BOQ) from ETABS models. CSI Detail creates a detailed model of the structure, based on its analysis model and the design process carried out in ETABS. It automatically generates views and drawings that can be used as the basis for preparing final engineering drawings, as well as BIM files for use in BIM tools. Detailing can be carried out both for concrete and steel buildings. CSI Detail generates reinforcement details for slabs, beams, columns, and walls, grouping similar beams and columns in the process.



REINFORCEMENT DETAILING

Reinforcement details are presented in the form of tables and schedules for groups of components, as well as drawn in plans, elevations, and sections for individual elements.



DETAILING RULES

Detailing is carried out based on an extensive set of preferences and rules to control bar-size selection, spacing, curtailment and placement.

- Beam detailing
- Column detailing
- Slab detailing
- Flexural/core wall detailing
- BBS (Bar bending schedule)

MODULE:06 DOCUMENTATION AND REPORT

1. DBR Report (Design Based Report)
2. Bar Bending Schedule
3. Detailing Sheets
4. Scheduling
5. Estimation
6. Presentation



ADMISSION PROCESS



Enrolment Form

A one-on-one chat with our SME to understand your basic knowledge, prior work experience, and your expectations from the course. After your interview assessment,



Interview and offer letter

A one-on-one chat with our SME to understand your basic knowledge, prior work experience, and your expectations from the course. After your interview assessment, you will receive an offer letter from us.



Payment

Based on your interview performance, you would receive an offer letter and an fee payment as per option choosed



Batch Allotment

After the payment formalities, you will be given course credentials and your learning journey will begin!

SAMPLE CERTIFICATE

1st August,2023

Certificate ID: SX-PGD-58
www.structurex.live/verify/



Corporate Training

STRUCTUREX PRIVATE LIMITED
Certifies that

Mr. Sanjay Singh

has Successfully Completed

Post Graduate Diploma Program in

RCC STRUCTURE & BIM TECHNOLOGY

A Program that include Analysis Design & Detailing of RCC STRUCTURE
and implementation of BIM 3D To 6D in project



Program Coordinator

Program Director

CAREER PROSPECTIVE

GLOBAL HIRING COMPANY

	 Member of the SNC-Lavalin Group	 TATA CONSULTING ENGINEERS LIMITED	
	 Expect More. Experience Better.		
			
			
	 Design & Consultancy for natural and built assets		

CAREER OUTCOME

STRUCTURAL
ENGINEER

BIM
ENGINEER

CIVIL DESIGN
ENGINEER

BIM
MODELLER

STRUCTURAL
COUNSULTANT

FEATURES , ELIGIBILITY & FEE STRUCTURE

Key Features:

1. Mode of Program: Online Live
2. Platform : Zoom Meeting
3. Duration: 08 Month
4. Recording of live class
5. Access of E-Library
6. 1 Year access of www.structurex.online for learning

Eligibility

Bachelor/Master/PHD in civil engineering or relevant work experience in AEC Industry

Program Fee:

INR 70,800 (60,000+18% GST)

Other than Indian & African subcontinent : USD 12,00/-

Maximum 2 installment applicable

For One Time Payment option : 10% Fee Wavier

Contact Us:

For further details, please reach out to:

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training@structurex.in

www.structurex.live



THANKS FOR BEING WITH US

Online Program For **Civil/Mechanical** Program

- 1 PGD in BIM Technology & PM
- 2 PGD in Bridge Design & Technology
- 3 PGD in Industrial Design & Technology
- 4 Master Program in High Rise & Tall Structure

For more Information Visit



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