K.D.K College of Engineering, Nagpur

Civil Engineering Department

Date:- 07/01/2025

Notice

All Students of Third year are hereby informed that Department of Civil Engineering is organizing **"Value Added Course on STAAD"** in Association with Substeller Incorporation, Nagpur.

All the students are advised to attend Value Added Course regularly from 10.01.2025

Dr. A.D.Shende
VAC Coordinator

Dr. S.R. Satone
Head, CED, KDKCE

Copy to,

1. The Principal, KDKCE, Nagpur
2. The Vice- Principal, KDKCE, Nagpur
3. The Dean (Academic), KDKCE, Nagpur
4. Notice Board

"Service to the society through Quality Technical Education"

K.D.K.

College of Engineering, Nagpur

(NBA & NAAC Accredited)

SUBSTELLAR

Department of Civil Engineering

In Association with

Substellar Incorporation, Nagpur

Inauguration Function

We cordially invite you to grace the Inauguration Function of the

Value Added Course
On
"STAAD Pro Learning"

Date : 10th January 2025 (Friday)

Venue : Civil Seminar Hall KDKCE, Nagpur

Rushikesh Zod	Dr. A.D.Shende	Dr. Swapneel R.Satone	Dr. A.M.Badar	Dr. Valsson Varghese
Director, SubStellar	Co-ordinator, Value Added Courses,KDKCE	Head Civil Engg, KDKCE	Vice Principal, KDKCE	Principal, KDKCE

K.D.K. College of Engineering, Nagpur
Department of Civil Engineering

Name of Activity- Value Added Course

Title- STAAD Pro Learning

Name of Expert - Er. Shivani Baisware, Trainer, SubStellar Incorporation, Nagpur

Mode of Activity- Offline

Venue- Computer Lab, Department of Civil Engineering, KDKCE, Nagpur

Duration- 10.01.2025 to 15.04.2025 **No. of Participants** – 33

Associating Partner - SubStellar Incorporation, Nagpur

Objectives-

1. To impart hands-on experience in analyzing and designing structures.
2. To understand the application of different load cases (dead, live, wind, seismic).
3. To perform analysis of beams, trusses, frames, and multi-storey buildings.
4. To interpret results and generate structural design reports.
5. To bridge the gap between theoretical structural analysis and real-world software application.

Outcomes-

1. Enhanced software proficiency in STAAD Pro.
2. Ability to model, analyze, and design structural systems.
3. Improved employability and readiness for structural engineering roles.
4. Exposure to current industry practices and IS code-based design.
5. Students developed and submitted complete design reports using STAAD Pro.

Dr. A.D.Shende	Dr. S.R. Satone	Dr. N.R. Dhamge	Dr. Valsson Varghese
Co-ordinator	Head, CED	IQAC Co-ordinator	Principal
Asstt. Professor Department of Civil Engineering K. D. K. College of Engineering Nagpur - 24	Head Department of Civil Engineering K. D. K. College of Engineering Nagpur - 24	IQAC Coordinator KDK College of Engineering Nagpur	Principal K. D. K. College of Engg. NAGPUR

K.D.K. College of Engineering, Nagpur
Department of Civil Engineering
Value Added Course on " STAAD Pro Learning"

Name of Expert - Er. Shivani Baisware, Trainer, SubStellar Incorporation, Nagpur

Mode of Activity- Offline

Venue- Computer Lab, Department of Civil Engineering, KDKCE, Nagpur

Duration- 10.01.2025 to 15.04.2025

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Introduction

STAAD Pro (Structural Analysis and Design Program) is one of the most widely used structural analysis and design software globally, developed by Bentley Systems. It supports various structural formats and international design codes. With increasing demand for software proficiency in the construction and infrastructure industry, a Value Added Course (VAC) on STAAD Pro was conducted to enhance student's practical knowledge and industry readiness.

Objectives

1. To impart hands-on experience in analyzing and designing structures.
2. To understand the application of different load cases (dead, live, wind, seismic).
3. To perform analysis of beams, trusses, frames, and multi-storey buildings.
4. To interpret results and generate structural design reports.
5. To bridge the gap between theoretical structural analysis and real-world software application.

Course Outline

The course outline covered a range of topics, including but not limited to:

- Introduction to STAAD Pro: Understanding the basics of the software, its interface, and its capabilities.
- Structural Analysis Concepts: Teaching fundamental concepts of structural analysis, including loadings, supports, and reactions.
- Modelling Structures: Hands-on experience in creating 3D models of various types of structures within STAAD Pro.
- Loading and Boundary Conditions: Learning how to apply different types of loads and Constraints to the structural models.
- Analysis Procedures: Understanding the step-by-step procedures for structural analysis using STAAD Pro.
- Interpretation of Results: Interpreting and analysing the output results from STAAD Pro, including deflections, reactions, and member forces.
- Design Codes and Standards: Familiarization with the design codes and standards used in

Shivani -

STAAD Pro for ensuring the safety and adequacy of structures.

- Optimization and Iterative Design: Exploring techniques for optimizing structural designs and making iterative changes.
- Dynamic Analysis: Introducing dynamic analysis concepts for structures subjected to dynamic loads such as earthquakes or wind.
- Practical Applications: Showcasing real-world applications of STAAD Pro in civil engineering projects.

Key aspects covered in a STAAD Pro Value added Course

- **Introduction to STAAD Pro**
  Understanding the software's interface, basic tools, and functionalities for structural analysis and design.
- **Modeling Techniques**
  Learning how to create 3D models of structures, including defining nodes, beams, columns, and other structural elements.
- **Load Application**
  Applying various types of loads like dead loads, live loads, wind loads, and seismic loads to the structural model.
- **Analysis Methods**
  Understanding different analysis methods available in STAAD Pro, such as static analysis, dynamic analysis, and advanced analysis techniques like P-delta and geometric non-linear analysis.
- **Design Codes**
  Familiarizing with different design codes used in STAAD Pro for steel, concrete, and other materials.
- **Design and Documentation**
  Learning how to design structural elements like beams, columns, and slabs based on the analysis results and generating design reports.

Methodology

1. Live demonstrations and guided exercises.
2. Real-time modelling and simulation.
3. Assignments and quizzes for hands-on learning.
4. Group project for collaborative learning.
5. Q&A and discussion forums after each session.

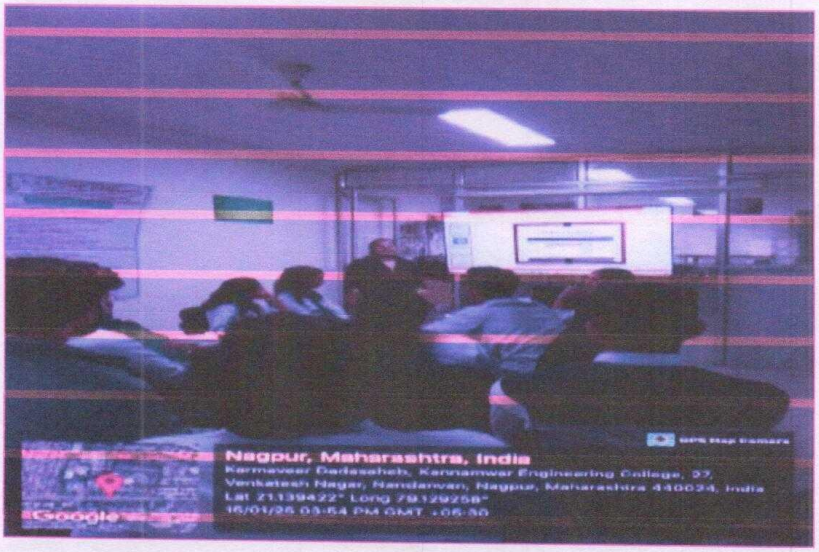
Outcomes

1. Enhanced software proficiency in STAAD Pro.
2. Ability to model, analyze, and design structural systems.
3. Improved employability and readiness for structural engineering roles.
4. Exposure to current industry practices and IS code-based design.
5. Students developed and submitted complete design reports using STAAD Pro.

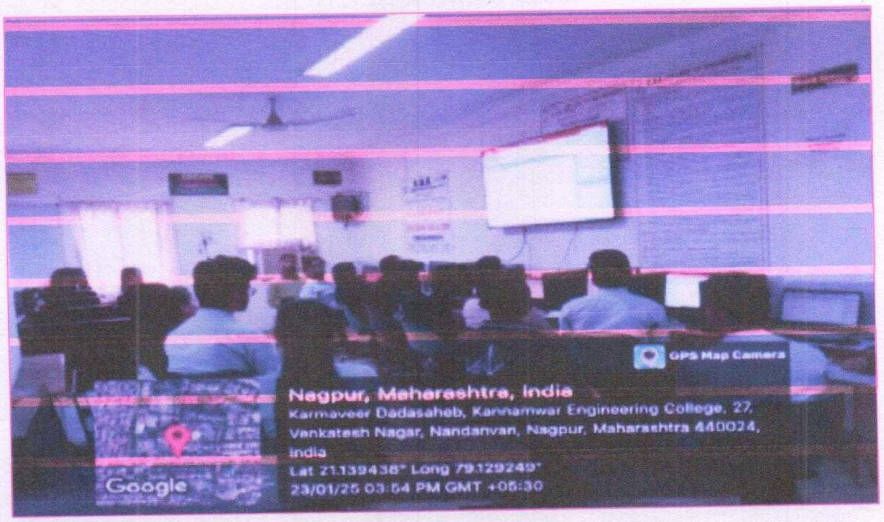
Conclusion

The Value Added Course on STAAD Pro Learning significantly enriched the participant's practical understanding of structural analysis and design. It provided a platform to bridge academic learning with professional software applications. The enthusiastic participation and successful completion of design projects by students marked the course as a successful initiative.

Glimpses of Value Added Course

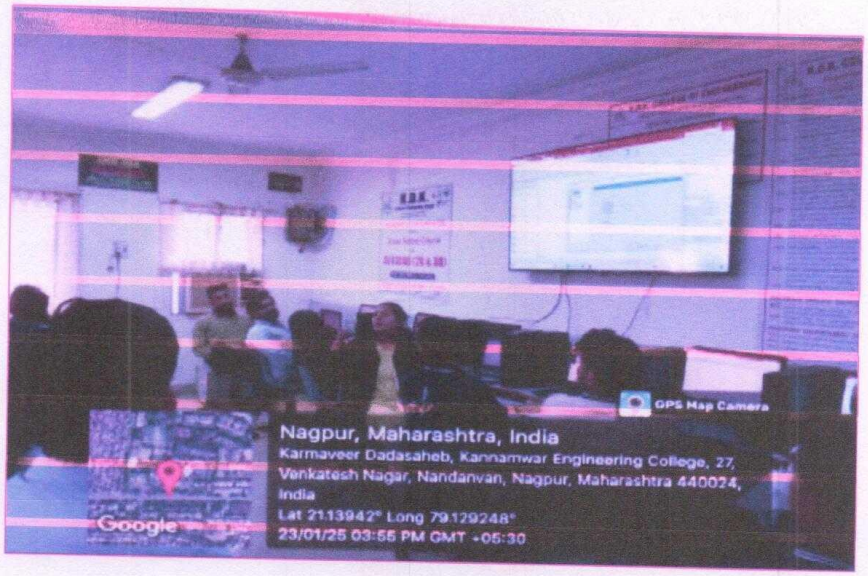


Delivering STAAD Pro Workflow through PPT presentation



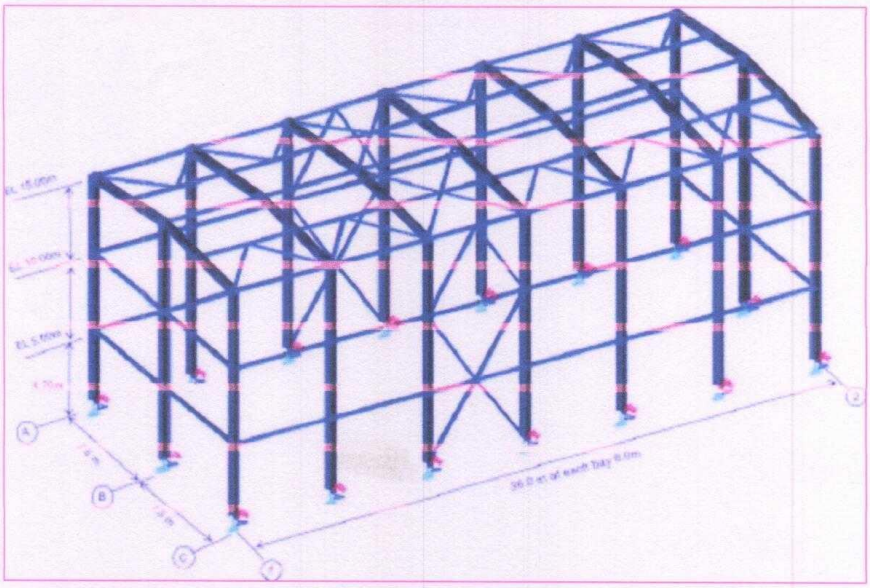
Structure's Geometry creation in STAAD Pro

Hands on Training



Property and Material assignment in STAAD Pro

Hands on Training



Steel Structure modelling by Students

Head
Department of Civil Engineering
K. D. K. College of Engineering

Asstt. Professor
Department of Civil Engineering
K. D. K. College of Engineering

Value Added Course On STAAD Pro Learning

K.D.K. College of Engineering, Nagpur
Department of Civil Engineering
VI Sem ~~Roll List~~ Attendance Sheet

Session 2024-25

Class Roll No.	Name of Student	21/2/25	22/2/25	24/2/25	25/2/25	4/3/25
302	Apurva Rajesh Pise	A	P	P	P	P
303	Arya Satish Marwadkar	P	P	P	P	P
305	Ayush Prashant Admane	P	P	P	P	P
306	Bhoomi Dhanraj Atram	P	P	P	P	P
310	Harsh Rajkumar Wanjari	P	P	P	P	P
311	Jayesh Umesh Kshirsagar	P	A	P	P	P
315	Neha Rajkumar Kohale	P	P	P	P	P
316	Nehal Someshwar Belwale	P	P	P	P	P
317	Nikita S Gonnade	A	P	P	P	P
318	Nutankumar Pitambar Sinh	P	P	P	P	P
319	Payal Diwakar Barapatre	P	P	P	P	P
321	Prachi Vijay Jambhulkar	P	P	P	P	A
322	Prajwal Gopal Meshram	P	P	P	P	P
323	Pranjali Narendra Gurnule	P	P	P	P	P
324	Pratiksha Pramod Kolarkar	P	P	P	P	P
327	Radhey Rajesh Dahikar	P	P	P	P	P
328	Riday Bijan Mandal	P	P	P	P	P
330	Sachi Prakash Kale	P	P	P	P	P
331	Sakshi Ankush Utane	P	P	A	P	P
332	Sakshi Suresh Wadighare	P	P	P	P	P
333	Sameer Baliramji Gotmare	P	P	P	P	P
334	Sarvesh Mulchand Patre	P	P	P	P	P
336	Shewta H Bhurle	P	P	P	P	P
337	Shruti Sheshrao Bhoyar	P	P	P	P	A
338	Sujal Ram Kuhikar	P	P	P	A	P
339	Sumit Subhash Makde	P	P	P	P	P
340	Swejal Prakash Karadbhajane	P	P	P	P	P
341	Tejas B Meshram	P	P	P	P	P
342	Vanjul Ajay Ganvir	P	P	P	P	P
343	Varun Avinash Kalambe	P	P	P	P	P
344	Vikas Ramesh Bisen	P	P	P	P	P
345	Vinay Narayan Patil	P	P	P	P	P
347	Vivek Sitaram Nagrikar	P	P	P	P	P

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Value Added Course on STAAD Pro Learning

K.D.K. College of Engineering, Nagpur
Department of Civil Engineering
VI Sem ~~Roll List~~ Attendance Sheet
Session 2024-25

Class Roll No.	Name of Student	10/1/25	13/1/25	15/1/25	20/1/25	21/1/25
302	Apurva Rajesh Pise	P	P	P	A	P
303	Arya Satish Marwadkar	P	P	P	P	A
305	Ayush Prashant Admane	P	A	P	P	P
306	Bhoomi Dhanraj Atram	P	P	P	P	A
310	Harsh Rajkumar Wanjari	P	P	P	P	P
311	Jayesh Umesh Kshirsagar	P	P	P	P	P
315	Neha Rajkumar Kohale	P	P	A	P	P
316	Nehal Someshwar Belwale	P	P	P	P	P
317	Nikita S Gonnade	P	P	P	P	P
318	Nutankumar Pitambar Sinh	P	P	P	P	P
319	Payal Diwakar Barapatre	P	P	P	P	P
321	Prachi Vijay Jambhulkar	P	P	P	P	P
322	Prajwal Gopal Meshram	P	P	P	P	P
323	Pranjali Narendra Gurnule	P	P	P	P	P
324	Pratiksha Pramod Kolarkar	P	P	P	A	P
327	Radhey Rajesh Dahikar	P	P	P	P	P
328	Riday Bijan Mandal	P	P	P	P	P
330	Sachi Prakash Kale	P	P	P	P	P
331	Sakshi Ankush Utane	P	P	A	P	P
332	Sakshi Suresh Wadighare	P	P	P	P	P
333	Sameer Baliramji Gotmare	P	P	P	P	P
334	Sarvesh Mulchand Patre	P	P	P	P	P
336	Shewta H Bhurle	P	P	P	P	P
337	Shruti Sheshrao Bhoyar	P	P	P	P	P
338	Sujal Ram Kuhikar	P	P	P	P	P
339	Sumit Subhash Makde	P	A	P	P	P
340	Swejal Prakash Karadbhajane	P	A	P	P	P
341	Tejas B Meshram	P	P	P	P	P
342	Vanjul Ajay Ganvir	P	P	P	P	P
343	Varun Avinash Kalambe	P	P	P	A	A
344	Vikas Ramesh Bisen	P	P	P	P	P
345	Vinay Narayan Patil	P	P	P	P	P
347	Vivek Sitaram Nagrikar	P	P	P	P	P

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Value Added Course on STAAD Pro Learning

K.D.K. College of Engineering, Nagpur
Department of Civil Engineering

VI Sem ~~Roll List~~ Attendance sheet
Session 2024-25

Class Roll No.	Name of Student	3/4/25	4/4/25	5/4/25	8/4/25	9/4/25
302	Apurva Rajesh Pise	P	P	P	P	P
303	Arya Satish Marwadkar	P	P	P	P	P
305	Ayush Prashant Admane	A	P	P	P	P
306	Bhoomi Dhanraj Atram	P	P	P	P	P
310	Harsh Rajkumar Wanjari	P	P	P	P	P
311	Jayesh Umesh Kshirsagar	P	P	P	P	P
315	Neha Rajkumar Kohale	P	P	A	P	P
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319	Payal Diwakar Barapatre	P	P	P	P	P
321	Prachi Vijay Jambhulkar	P	P	P	P	P
322	Prajwal Gopal Meshram	P	P	P	P	P
323	Pranjali Narendra Gurnule	A	P	P	P	P
324	Pratiksha Pramod Kolarkar	P	P	P	P	P
327	Radhey Rajesh Dahikar	P	A	P	P	P
328	Riday Bijan Mandal	P	P	P	A	P
330	Sachi Prakash Kale	A	P	P	P	P
331	Sakshi Ankush Utane	P	P	P	P	P
332	Sakshi Suresh Wadighare	P	P	P	P	P
333	Sameer Baliramji Gotmare	P	P	P	P	P
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338	Sujal Ram Kuhikar	P	P	P	P	P
339	Sumit Subhash Makde	P	P	P	P	P
340	Swejal Prakash Karadbhajane	P	P	P	P	A
341	Tejas B Meshram	P	P	P	P	P
342	Vanjul Ajay Ganvir	P	P	P	P	P
343	Varun Avinash Kalambe	P	P	P	P	P
344	Vikas Ramesh Bisen	P	P	P	P	P
345	Vinay Narayan Patil	P	P	P	P	P
347	Vivek Sitaram Nagrikar	P	P	P	P	P

SubStellar Incorporation

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SUBSTELLAR

College of Engineering, Nagpur

(NBA & NAAC Accredited)

Department of Civil Engineering

In Association with

SubStellar Incorporation, Nagpur

Valedictory Function

We cordially invite you to grace the Valedictory Function of the

Value Added Course
On
"STAAD Pro Learning"

Date : 16th April 2025 (Wednesday)

Venue : Room No. A-123, Department of Civil Engineering, KDKCE, Nagpur

Rushikesh Zod	Dr. A.D.Shende	Dr. Swapneel R.Satone	Dr. A.M.Badar	Dr. Valsson Varghese
Director, SubStellar	Co-ordinator, Value Added Courses,KDKCE	Head Civil Engg, KDKCE	Vice Principal, KDKCE	Principal, KDKCE

KDK COLLEGE OF ENGINEERING, NAGPUR

(NBA & NAAC ACCREDITED INSTITUTE)

Department of Civil Engineering

Organizes

Value Added Course on

"STAAD Pro Learning"

In Association With

SubStellar Incorporation, Nagpur

SUBSTELLAR

Certificate of Completion

This certificate is presented to

Apurva Rajesh Pise

for the successful completion of "**Value Added Course**" titled "**STAAD Pro Learning**"

conducted at KDK College Of Engineering, Nagpur in association with

SubStellar Incorporation Nagpur.

Duration : **10th january 2025 - 15th April 2025**

Mr. Rushikesh Zod	Dr. A.D. Shende	Dr. Swapneel R. Satone	Dr. A.M.Badar	Dr. Valsson Varghese
Director, SubStellar Inc.	Co-ordinator, V.A. Courses, KDKCE	Head, Dept. of Civil Engg, KDKCE	Vice Principal, KDKCE	Principal, KDKCE

Test-1 STAAD Pro

* Indicates required question

1. 1.The New Generation of STAAD is *

Mark only one oval.

- ◯ STAAD –III For Windows
- ◯ STAAD Pro for DOS
- ◯ STAAD Pro V8i
- ◯ STAAD Pro Connect Edition
- ◯ Other: _____

2. 2. STAAD Pro Software related with *

Mark only one oval.

- ◯ Network Analysis
- ◯ Mathematical
- ◯ Analysis and Design
- ◯ CAD Drawing
- ◯ Other: _____

3. 3.What is Structure Wizard *

Mark only one oval.

- ◯ Allow users to import Autocad DWG Files
- ◯ Library of Predefined structural shapes
- ◯ Bring Excel sheet to staad Pro
- ◯ All of Above
- ◯ Other: _____

4. 4.In Indian Standard Criteria for design of Reinforced Concrete Structures *

Mark only one oval.

- ◯ IS 1893:2016
- ◯ IS 800:2007
- ◯ IS 456:2000
- ◯ IS 1892:2003
- ◯ Other: _____

5. 5.Pinned support will have _____ number of reactions *

Mark only one oval.

- ◯ 2
- ◯ 6
- ◯ 4
- ◯ 3
- ◯ Other: _____

6. 6.You can also edit the parameters of structure Wizard Model *

Mark only one oval.

- ◯ True
- ◯ False
- ◯ Other: _____

7. 7.How many type of meshing in Staad Pro *

Mark only one oval.

- ◯ 1
- ◯ 2
- ◯ 5
- ◯ 4
- ◯ Other: _____

Test On Staad Pro-II

Fill the details and try to answer all the questions carefully. All the Best!!

* Indicates required question

1. Name *

2. Mobile No *

3. 1. What does RC stand for in RCC Structures? * 1 point

Mark only one oval.

- ◯ Resilient Columns
- ◯ Real Construction
- ◯ Reinforced Concrete
- ◯ Ready For Construction

4. 2. Why is Steel used as reinforced material in RCC? * 1 point

Mark only one oval.

- ◯ Steel is not reactive to water
- ◯ Thermal coefficient of steel is less than that of concrete
- ◯ Steel provides compressive strength to the structures
- ◯ Steel provides tensile strength to the structures

5. 3. When the shear reinforcement is provided vertically, they are called? * 1 point

Mark only one oval.

- Spacing
- Stirrups
- Shear Spacing
- Shear stirrups

6. 4. What is the maximum area for tension reinforcement in a beam? * 1 point

Mark only one oval.

- 4%
- 8%
- 6%
- 2%

7. 5. While designing a beam, What points are considered from the following? * 1 point

Mark only one oval.

- Bending Moment
- Shear Force
- Neither Shear force nor Bending Moment
- Both Shear force and Bending Moment

8. 6. What is the objective of providing foundation to a structure? * 1 point

Mark only one oval.

- ◯ To distribute the load to the soil
- ◯ For the compaction of the soil below the structure
- ◯ To provide a base to the structure
- ◯ To stabilize the soil below the structure

9. 7. For a simply supported slab of dimension what is the percentage of minimum area of reinforcement (mild steel reinforcement)? * 1 point

Mark only one oval.

- ◯ 0.15%
- ◯ 0.36%
- ◯ 0.24%
- ◯ 0.48%

10. 8. For freely supported slab, the effective span is taken equal to the distance between center to center of supports? * 1 point

Mark only one oval.

- ◯ True
- ◯ False

Test On Staad Pro-III

Fill the details and try to answer all the questions carefully. All the Best!!

* Indicates required question

1. Name *

2. Mobile No *

3. 1. The minimum number of main steel bars provided in R.C Column? * 1 point

Mark only one oval.

- Rectangular columns is 4
- Circular Columns is 6
- All the above

4. 2. A RCC column is treated as short column if its slenderness ratio is less than... * 1 point

Mark only one oval.

- 35
- 40
- 50
- 45

5. 3. What is Structure Wizard? * 1 point

Mark only one oval.

- ◯ What is Structure Wizard?
- ◯ A Library of pre-defined structural shapes
- ◯ All of above

6. 4. In the input file and under Joint Coordinate, one of the following statement is true... * 1 point

Mark only one oval.

- ◯ 1, 0, 0, 0
- ◯ 1 0 0 0
- ◯ 1; 0; 0; 0
- ◯ 1 0 0

7. 5. STAAD Pro perform analysis is: * 1 point

Mark only one oval.

- ◯ Taking into consideration the displacement of nodes
- ◯ Taking into consideration the stiffness correction
- ◯ Multi-iteration Analysis
- ◯ None of the above

8. 6. With the help of which of the following functions, you can duplicate Nodes, Beams and Plates in the direction of X, Y, Z? * 1 point

Mark only one oval.

- ◯ Circular Repeat
- ◯ Mirror
- ◯ Translational Repeat
- ◯ Inserts Nodes

9. 7. Indian Standard Criteria for Earthquake Resistant design of structure is? * 1 point

Mark only one oval.

- ◯ IS 1893-2003
- ◯ IS 1893-2002
- ◯ IS 1893-Part-1(2016)
- ◯ IS 1892-2016

10. 8. By Default, Response Reduction Factor value for special RC Moment resisting frame is? * 1 point

Mark only one oval.

- ◯ 1
- ◯ 3
- ◯ 6
- ◯ 5

Test On Staad Pro-IV

Fill the details and try to answer all the questions carefully. All the Best!!

* Indicates required question

1. Name *

2. Mobile No *

3. 1. In concentrated Load, P is___? * 1 point

Mark only one oval.

- Force Direction
- Perpendicular Distance from the member
- Value of Load
- All of above

4. 2. In Track Parameter ,We have which of the following values? * 1 point

Mark only one oval.

- 2, 3, 4
- 0, 1, 2
- 1, 0, 2
- 1, 2, 3

5. 3. In concrete design parameter, by default, value for clear cover is ____. * 1 point

Mark only one oval.

- 25mm
- 12mm
- 30mm
- 20mm

6. 4. We use Indian standard code for Wind load Calculation: * 1 point

Mark only one oval.

- IS875 Part-1 :2007
- IS 875 Part-2:2007
- IS 875 Part-3:2007
- IS 456:2000

7. 5. We can apply floor load in Staad Pro by * 1 point

Mark only one oval.

- By giving range in X,Y and Z Direction
- By Creating Groups
- By using Both above method

8. 6. Live load is taken as _____for Accessible RCC floor * 1 point

Mark only one oval.

- 1.5Kn/m2
- 2Kn/m2
- 3Kn/m2
- 0.75Kn/m2

9. 7. Structure situated in zone-II and having height less than 15m use Earthquake analysis method * 1 point

Mark only one oval.

- ◯ Pushover Analysis
- ◯ Response Spectrum Analysis
- ◯ Equivalent Static Method
- ◯ Time History

10. 8. We can calculate Natural time period of oscillation in sec manually for all other building type using formula ___. * 1 point

Mark only one oval.

- ◯ Ta = h/(√d)
- ◯ Ta = 0.09h/(√d)
- ◯ Ta =0.075h^0.075
- ◯ Ta =0.075h^0.075/(√h)