

Ref. :1134 / Dean(Sol) / 0425

Date: 15.04.2025

SCHOOL OF INFRASTRUCTURE

DEPARTMENT OF CIVIL ENGINEERING

**Guest Lecture on
Analysis and Design of Structures Using Finite Element Software (Staad Pro and ETABS)**

Date: 07.04.2025

Time: 01.40 p.m. to 04.00 p.m.

I. PREAMBLE:

As part of the M.Tech (Structural Engineering) & B.Tech (Civil Engineering) curriculum, a guest lecture was arranged for the courses Structural Analysis I and Structural Concrete Design [CED2202 and CED2203] for IV semester B.Tech - Civil Engineering]; and Finite Element Analysis in Structural Engineering and Structural Modelling and Analysis Laboratory [CEE6211 and CEE6214] for II semester M.Tech Structural Engineering], on 07th April 2025 from 01.40 p.m. to 04.00 p.m. in U.G. Computer Laboratory, Civil Engineering Department. This programme was supported by the Institution's Innovation Council, B. S. Abdur Rahman Crescent Institute of Science and Technology.


II. ABOUT THE SPEAKERS

Er. Praveen Anand, managing partner of Spridel Consultancy, graduated from Jerusalem College of Engineering & did his master's in Structural Engineering from SRM University Kattankulathur. After his master's, he joined AEDBM structural design firm & had a wide range of experience in steel buildings, RC infra projects & heavy civil structures over a period of 3 years. He holds a Chartered Engineer License from IEI & Grade II Structural Engineer License in DTCP Tamil Nadu.


Er. Satish S, managing partner of Spridel Consultancy, graduated from Sairam College of Engineering & did his master's in Structural Engineering from SRM University Kattankulathur. After his master's, he joined Design Group Engineering Consultant & had a wide range of experience in commercial buildings, RC infra projects, & high-rise structures over a period of 3 years.

Both of them had started this company together in 2020 & completed more than 350 projects all over Tamil Nadu & some overseas projects in Malaysia, Republic of Chad, Saudi Arabia, and Oman. The projects are diversified in various areas like offshore structures, Piperack Structures, and RCC Residential, Commercial, & Industrial Projects. Currently working with a few government sectors like PWD, CMWSSB, Southern Railway, ICF & some corporations in Tamil Nadu. They also help in checking the design documents submitted for vetting under reputed institutions like IIT and Anna University.

Technical Talk Brochure



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**SCHOOL OF INFRASTRUCTURE
DEPARTMENT OF CIVIL ENGINEERING**

GUEST LECTURE ON

**Analysis and Design of Structures
Using Finite Element Softwares
(Staad Pro and ETABS)**

[As a part of courses CED 2202, CED 2203, CEE 6211 and CEE 6214]

by

Er. PRAVEEN ANAND
Structural Engineer, Managing Partner
SPRIDEL Consultancy, Chennai

VENUE
UG COMPUTER LABORATORY,
DEPARTMENT OF CIVIL ENGINEERING,
SCHOOL OF INFRASTRUCTURE

DATE & TIME
07.04.2025
MONDAY
1.40 PM

Coordinators

Dr. M. Vishal
AP/Civil

Mr. A. Manivannan
AP/Civil

Convener

Dr. P. Gajalakshmi
Professor/Civil

III. ABOUT THE SESSION:

Dr. M. Vishal, Assistant Professor, Department of Civil Engineering, extended a warm welcome to the guests & participants and introduced the guest speaker. The technical talk aimed to provide students with a comprehensive understanding of structural analysis and design software, its fundamental principles, practical applications, and challenges.

Er. Praveen and Er. Sathish started the session by explaining the importance and fundamentals of structural analysis software. They discussed the step-by-step procedure of analysis and design of structures using STAAD Pro and ETABS software right from the finite element concept. They discussed the various methods available for creating the geometry, useful shortcuts available within the software for better feasibility, methods for assigning the material properties, and different types of loads acting on the structure and their corresponding calculations, support conditions to be assigned to reinforced concrete structures and steel structures and design parameters.

The lecture also highlighted some practical perceptions about the bending moments and shear force calculations, the difference between the primary beam moment releases and secondary beam moment releases and the differences between analysing the slab as a shell element and membrane.

Following the lecture, an interactive Q&A session allowed students to engage in discussions on practical difficulties and emerging trends in structural analysis and design. Er. Praveen and Er. Sathish provided insightful responses, sharing his expertise and experiences from the field. The session concluded with a vote of thanks by Mr. A. Manivannan. Furthermore, Dr. P. Gajalakshmi, Professor of Civil Engineering, expressed her appreciation to Er. Praveen and Er. Sathish for their valuable time and knowledge sharing.



Lecture by the guest speakers

IV. DETAILS OF PARTICIPANTS:

The following were the participants of I-year M. Tech (Structural Engineering) & II-year, B.Tech (Civil Engineering) who attended the technical talk:

Sl. No.	Name	RRN
1	Derrick Shalvin M	241202601001
2	Gokul Prasad N	241202601003
3	Hudson Gnanadurai C	241202601004
4	Jessica Jenny James	241202601005
5	Mohamed Zuhairudeen A	241202601008
6	Sethu Raman	241202601009
7	Waqas Ahmed Sheikh	241202601010
8	Abdul Aadhil M	230011601001
9	Abdul Rahim	230011601002
10	Akram Jaweeth A	230011601003
11	Aravinthan Theivaraj	230011601004
12	Arshath Ibrahim S	230011601005
13	Imran Farid A	230011601007
14	Jameel Ahamed M	230011601008
15	Mahalakshmi K	230011601009
16	Mohamed Aslam S	230011601010
17	Mohamed Shadiq M	230011601011
18	Mohamed Yasin S	230011601012
19	Mohammed Ajmal	230011601013
20	Mohammed Faaiz K	230011601014
21	Mohammed Mehran P	230011601015
22	Mohammed Razeen T	230011601016
23	Mohammed Siddiq S	230011601017
24	Rameeza Yasmin P K	230011601018
25	Roshan Asfaq	230011601019
26	Saad Sayeed Shaikh	230011601020
27	Surya Moorthy M	230011601021
28	Syed Ahamed K M	230011601022

29	Syed Masooth	230011601023
30	Thokchom Wanglen Moilangcha	230011601024
31	Thycus Mario Valantine D	230011601025
32	Yukesh G	230011601026
33	Abdul Asif M	230011602001
34	Esakki Rajesh R	230011602002
35	Faslan Ahamed A	230011602003
36	Mohamed Jasim H	230011602005
37	Mohamed Yusuf Irfan M	230011602006
38	Naufal Ahamed	230011602007
39	Rithvik.K	230011602008
40	Muhamadhu Sulthan S	230011602009

V. OUTCOMES:

- The students gained knowledge about the fundamentals of the structural analysis software and the link between the academic and real-world scenario.
- The students will develop the software skills required for the analysis and design of structures in real world scenario and other complicated structures.



Dr. M. Vishal
Assistant Professor



Mr. A. Manivannan
Assistant Professor



Dr. P. Gajalakshmi
Professor



Dr.M.S. Haji Sheik Mohammed
Dean (School of Infrastructure)