DESIRE 2 DESIGN ENGINEERS

Structural Consultancy & Constructions

Guest Lecture Report

Bridging the Gap Between Academia and the Construction Industry

A session on structural fundamentals, industry practice and career readiness for diploma Civil Engineering students

RESOURCE PERSON	Er. S. Soma Sekhar Naidu — Founder & Managing Director, D2D Engineers
DATE	3rd September 2026
TIME	10:30 AM – 12:00 Noon
VENUE	Seminar Hall, Government Polytechnic College, Pendurthi
FORMAT	Lecture + Live Demonstration + Interactive Q&A
PARTICIPANTS	Diploma Civil Engineering students & faculty

ABOUT THE RESOURCE PERSON

Er. S. Soma Sekhar Naidu, M.E., AMIE, AIV (Chartered Engineer), is the Founder & Managing Director of Desire 2 Design (D2D) Engineers — a structural consultancy and turnkey construction firm offering services spanning structural design, architectural planning, NDT testing, geotechnical investigation, DGPS survey, waterproofing and construction execution. He visited Government Polytechnic College, Pendurthi, to help diploma students connect classroom formulae in Strength of Materials and Structural Analysis with the judgement required on a live construction site.

9	50+	1000+
Branches	Professionals	Projects Completed

OBJECTIVES OF THE SESSION

- Help diploma students see how core Strength of Materials and Structural Analysis concepts are actually used on a construction site.

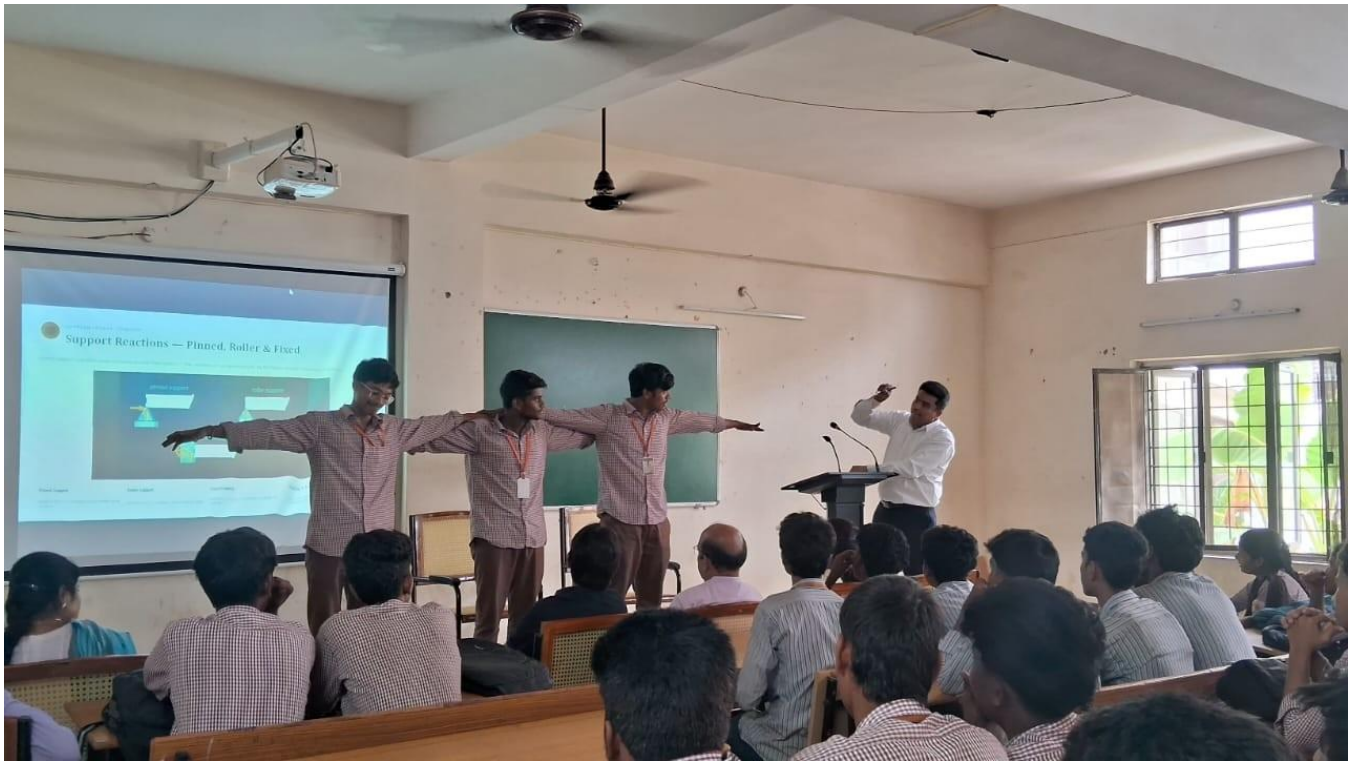
- Demystify support reactions, stress-strain behaviour and bending action through everyday analogies and live classroom demonstration.
- Introduce the modes in which structural members fail, and why understanding failure sharpens good design.
- Show how a practising structural engineer connects design formulae to real, on-ground decisions.
- Offer practical career guidance for diploma engineers preparing to enter the construction industry.

TOPICS COVERED

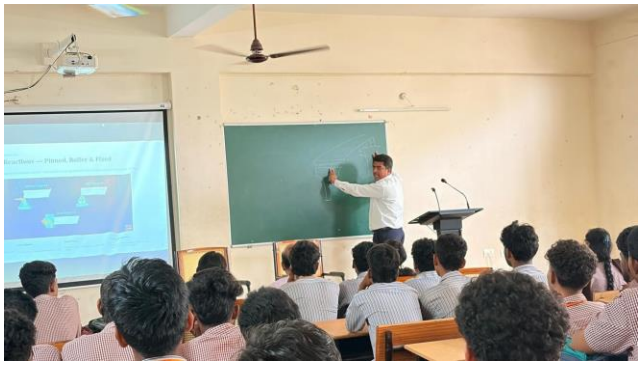
- **Support Reactions —** Pinned, roller and fixed supports explained on the board and re-created as a live student demonstration.
- **Stress & Strain —** $\sigma = P/A$ and $\varepsilon = \delta L/L$ introduced through a simple crowd analogy students could feel and picture.
- **Ways a Member Fails —** The three fundamental modes in which a structural member can fail under load.
- **Bending Stress Relation —** $M/I = \sigma/y = E/R$ — how this single equation governs every RCC and steel beam's depth and reinforcement placement.
- **Academia → Industry Bridge —** How a formula on the board becomes a judgement call on an active construction site.
- **Career Pathways —** Where a diploma civil engineer's skills fit across design, site execution and testing roles.

INTERACTIVE LEARNING & DEMONSTRATION

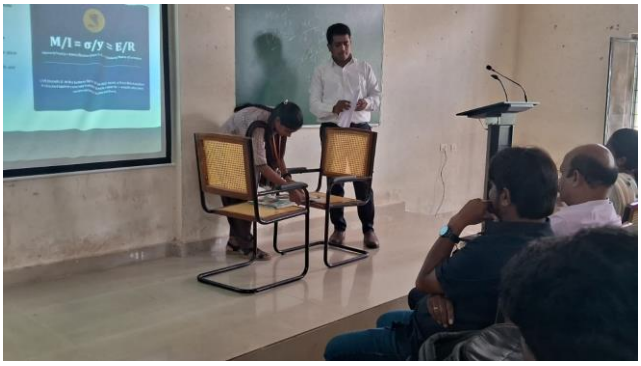
Er. Naidu sketched a bridge girder on the board to explain how support reactions are generated, then had students physically act out pinned, roller and fixed supports in front of the class — turning an abstract diagram into a memory students could feel in their own arms. He went on to unpack stress and strain through a crowd analogy, and connected the bending relation $M/I = \sigma/y = E/R$ to why steel reinforcement sits at the bottom fibre of an RCC beam. Students engaged actively through the open Q&A that followed.



Students act out pinned, roller and fixed support reactions



Explaining support reactions on the board

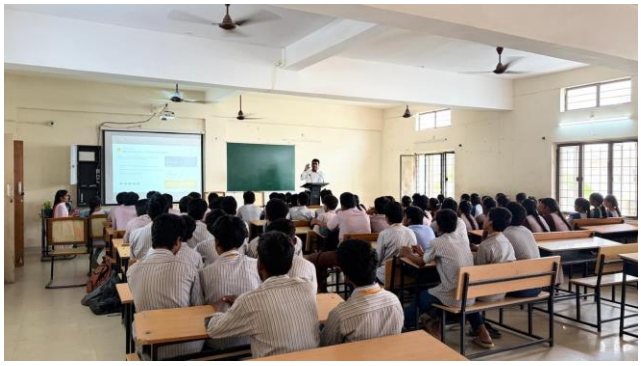


Working through the bending stress relation

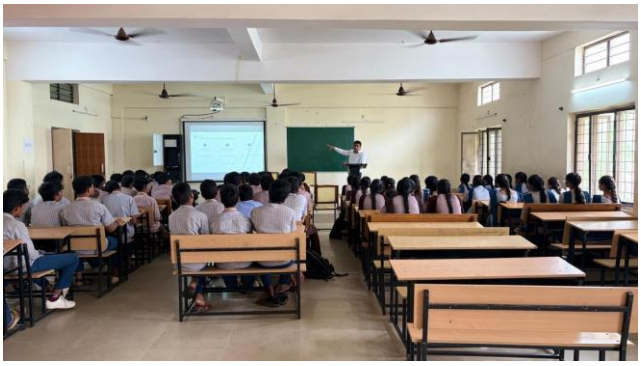
CAREER GUIDANCE FOR FUTURE ENGINEERS

- **Start on Site —** A graduate trainee role builds the practical discipline no classroom can teach.
- **Teach to Sharpen Skill —** Explaining concepts to others deepens your own understanding.
- **Seek Large Exposure —** Work on big, complex projects early to build real judgement.
- **Build Technical Credibility —** Deep expertise earns trust and opens new opportunities.
- **Keep Learning Widely —** Structural, soil, NDT and PMC skills together make you versatile.
- **Take the Entrepreneurial Leap —** When ready, starting your own practice is a natural next step.

GLIMPSES OF THE EVENT

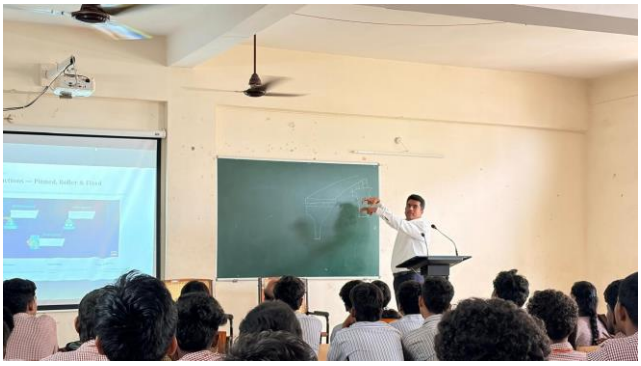


Addressing the students

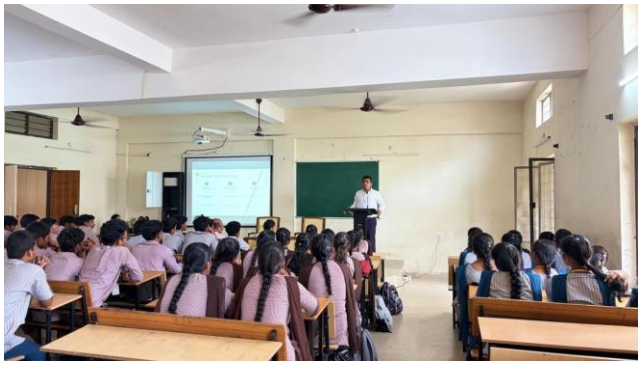


A full house — students following the session

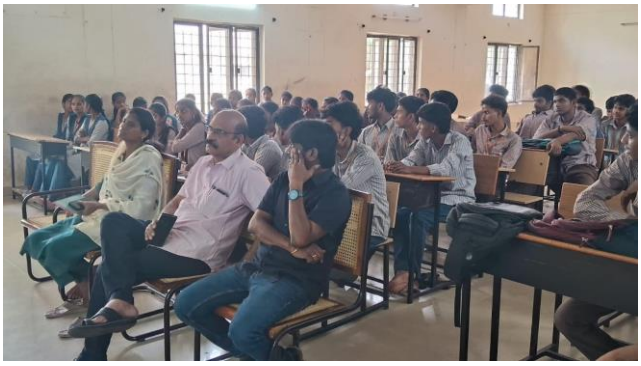
Stress & strain — a crowd analogy



Working through the reaction diagram



Explaining the three ways a member fails



Faculty and students following the session

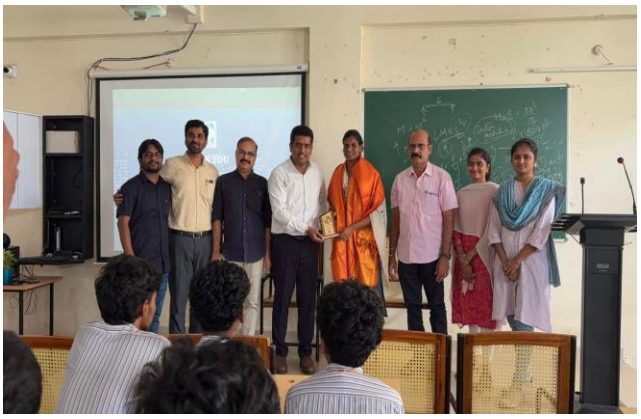
OUTCOME & CONCLUSION

The session gave diploma students a hands-on view of structural engineering — moving beyond formulae to how support reactions, stress-strain behaviour and bending action actually govern a member's design. Live

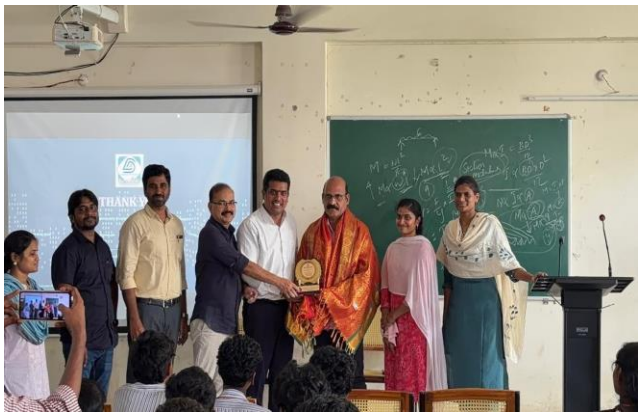
sketches, a physical support-reaction demonstration and everyday analogies helped connect classroom fundamentals to the judgement required on an active construction site, leaving students better prepared to carry theory into practice.

FELICITATION

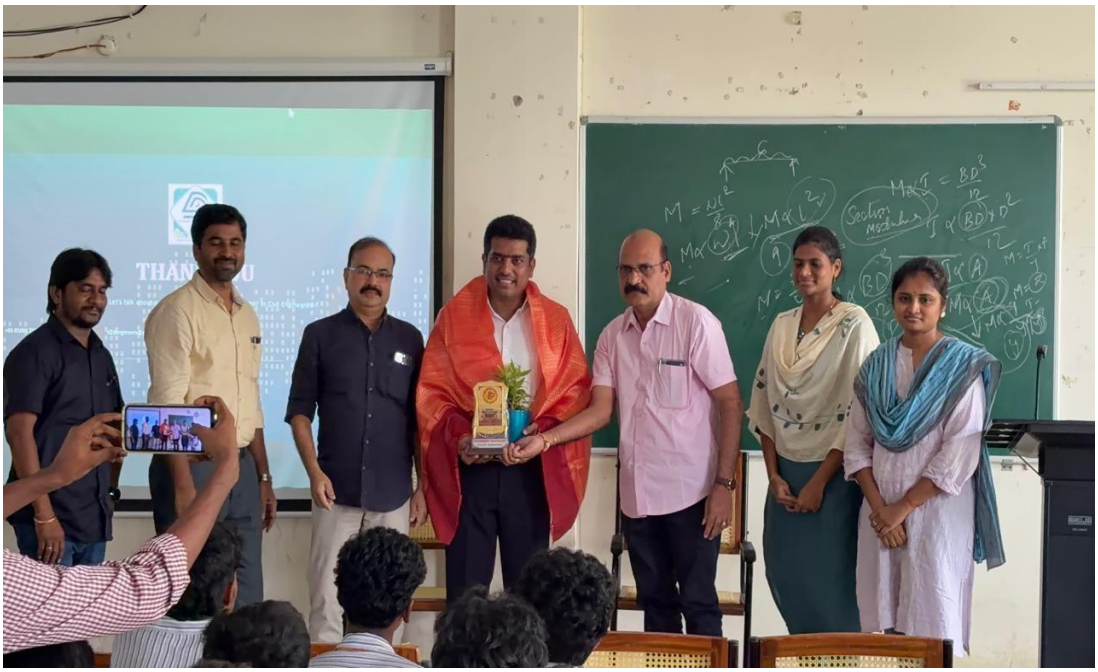
Er. S. Soma Sekhar Naidu, MD & Founder of D2D Engineers, was felicitated with a memento and a ceremonial shawl by the Principal, HOD and faculty of the institution, in recognition of his time, insight and continued support to the department. In turn, Er. Naidu felicitated the Principal and the HOD:



Er. Naidu felicitating the HOD – Y.Swetha

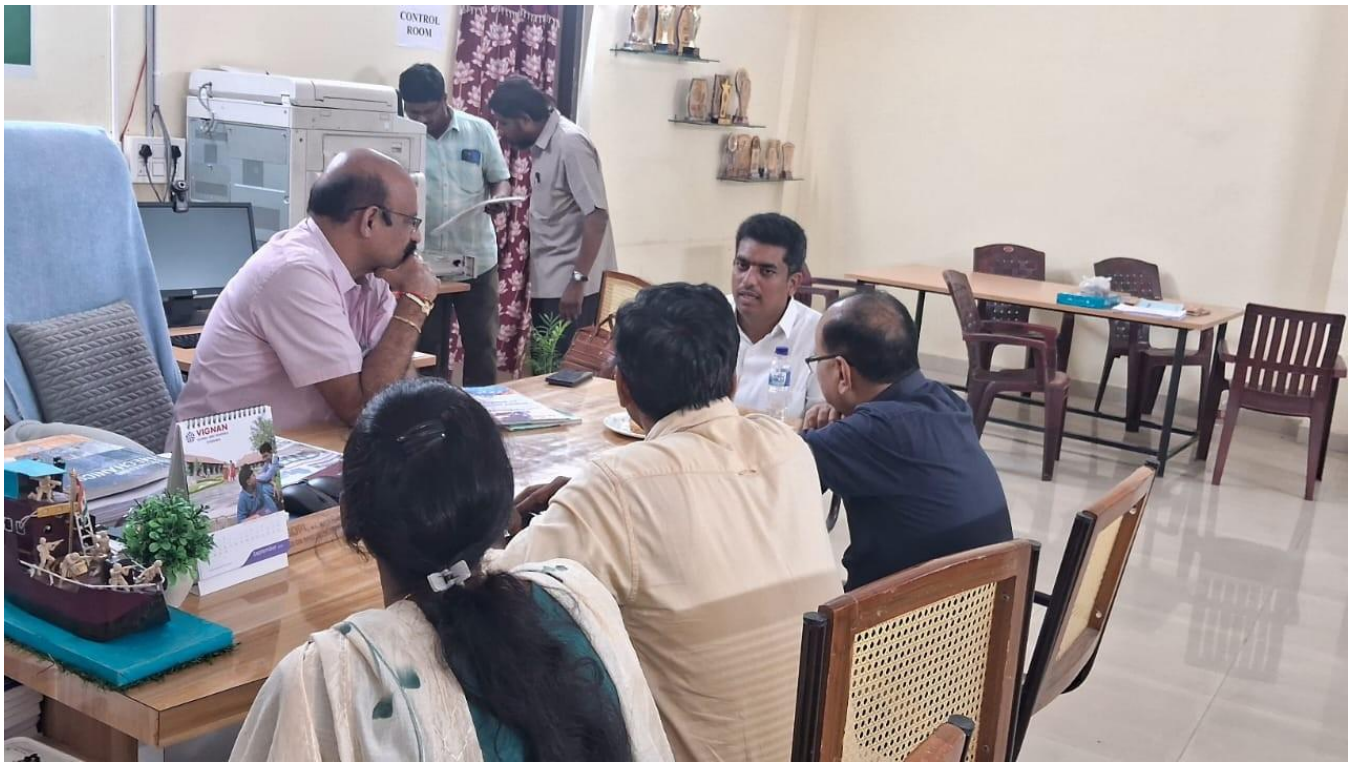


Er. Naidu felicitating the Principal- Dr. A.Gopi



Mr. S. Soma Sekhar Naidu (MD & Founder of D2D) felicitated by the Principal, HOD and Faculty

GROUP PHOTO



Discussion with the Principal, HOD and faculty following the session

> *"Great engineers are not only those who design structures, but those who understand how structures behave throughout their service life."*
>
> **— Mr. S. Soma Sekhar Naidu, Founder & Managing Director, D2D Engineers**