



DESIRE 2 DESIGN ENGINEERS

Structural Consultancy & Constructions

Guest Lecture Report

Importance of Structural Design for Construction

A session on structural design fundamentals, codal compliance and site-realisation for the Department of Civil Engineering

RESOURCE PERSON	Er. S. Soma Sekhar Naidu — Founder & Managing Director, D2D Engineers
DATE	26th March 2024
VENUE	College Seminar Hall, Department of Civil Engineering, GMR Institute of Technology (GMRIT), Razam, Vizianagaram District, AP
FORMAT	Lecture + Case Studies + Q&A
PARTICIPANTS	150+ III Year Civil Engineering students

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, NDT & soil testing, DGPS survey, seismic retrofitting and plan approvals. He visited GMR Institute of Technology to help III year Civil Engineering students understand why structural design sits at the centre of every safe, durable building — and what it takes to carry that design faithfully from drawing to site.

15+ Years Experience	36+ Projects Completed	50+ Skilled Team	₹250 Cr Largest Project
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OBJECTIVES OF THE SESSION

- Understand why structural design is the foundation of every safe and durable building.
- Recognise how structural design translates architectural intent into a stable, code-compliant structure.
- Learn how dead, live, wind and seismic loads govern design decisions from foundation to roof.
- Understand the consequences of under-design, over-design, and a poor design-to-execution match.



- Appreciate the role of Indian Standard codes — IS 456, IS 1893, IS 13920 — in ensuring structural safety.
- Build awareness of how good design must be matched by disciplined execution on site.

TOPICS COVERED

- **Why Structural Design Matters** — How design decisions determine a building's safety, durability, and lifetime performance.
- **From Architecture to Structure** — Translating architectural drawings into a safe, buildable structural system.
- **Load Paths and Load Types** — Dead loads, live loads, wind and seismic loads, and how they travel safely to the foundation.
- **Codal Framework** — IS 456 (RCC design), IS 1893 (earthquake resistant design) and IS 13920 (ductile detailing), and their role in structural safety.
- **The Design-Execution Gap** — Why a perfectly designed structure can still fail if site execution does not match the drawing.
- **Case Studies in Structural Failure** — Real examples where inadequate or ignored structural design led to distress or collapse.
- **Foundations and Soil Investigation** — Why structural design begins below the ground, not above it.
- **The Engineer's Responsibility** — Balancing safety, economy and constructability in every design decision.

INTERACTIVE LEARNING & DEMONSTRATION

Er. Naidu used a video presentation to walk students through structural design concepts — pausing at key moments to explain how load paths, column sizing and reinforcement detailing come together on a real project, before opening the floor to an interactive Q&A. He connected classroom fundamentals of Structural Analysis and Design of Structures to live consulting scenarios, and students engaged actively with questions on how a structural design office actually works.



Er. Naidu walks students through structural design concepts via video presentation

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



Introduction to D2D Engineers



Addressing the students



Explaining structural design concepts



Engaging with students



Faculty and students following the session

OUTCOME & CONCLUSION

The session gave III year Civil Engineering students a practical, working understanding of why structural design sits at the heart of construction quality and safety. By connecting classroom fundamentals of Structural Analysis and Design of Structures to real project drawings, codal provisions, and site realities, students left with a clearer sense of the responsibility and judgement expected of a structural engineer.

INSTITUTIONAL COLLABORATION — MOU FOR INTERNSHIP

Following the session, D2D Engineers formalised a Memorandum of Understanding with GMR Institute of Technology (GMRIT), Razam, to offer structured internship opportunities for Civil Engineering students — extending the collaboration between the department and industry practice beyond the guest lecture itself.



MoU exchange with the Principal



MoU exchange with the Principal and HOD, Civil Engineering



“Great engineers are not only those who design structures, but those who understand how structures behave throughout their service life.”

— Er. S. Soma Sekhar Naidu, Founder & Managing Director, D2D Engineers