Event Summary Report

One-Day Workshop on Structural Evaluation Techniques

Date: August 12, 2025
Venue: Lab 330, Block No. 5, GTU-SET, Chandkheda Campus, Ahmedabad
Organized by: Department of Civil Engineering (Structural Engineering), GTU-SET

Introduction

The Department of Civil Engineering (Structural Engineering), Gujarat Technological University – School of Engineering and Technology, organized a One-Day Workshop on Structural Evaluation Techniques on August 12, 2025. The workshop aimed to enhance participants' knowledge and skills in both Non-Destructive Testing (NDT) and Nonlinear Static Pushover Analysis, with hands-on demonstrations and expert lectures.

Morning Session: Non-Destructive Testing (NDT)

Topic: Rebound Hammer Test – Theory and Hands-on Practice

The morning session was conducted under the guidance of Dr. J. A. Amin, Professor & Head, GTU-SET. Participants were introduced to NDT and its field applications, with detailed coverage of IS code provisions for Rebound Hammer Testing. The session included:

- Live demonstration of the Rebound Hammer Test on concrete elements.
- Group-wise hands-on practice for data collection.
- Estimation of compressive strength from rebound values.
- Interactive discussion on results and surface behavior.
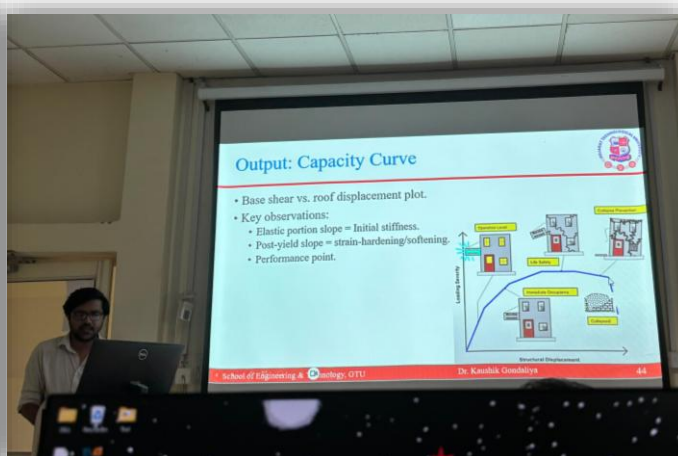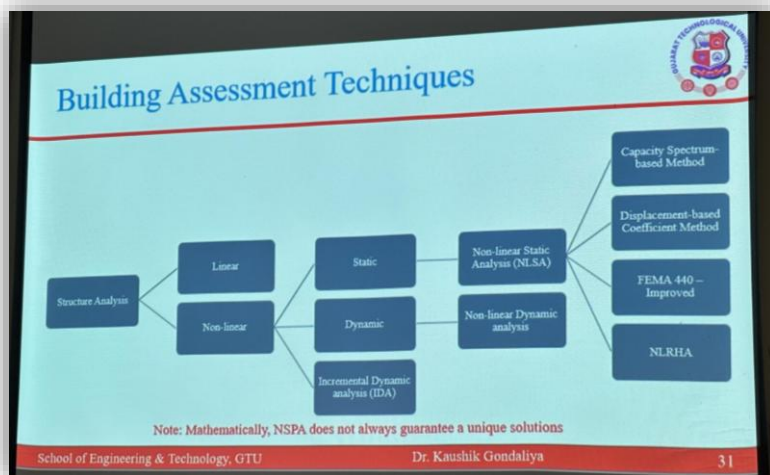

[Rebound Hammer demonstration]

[Participants practicing NDT]

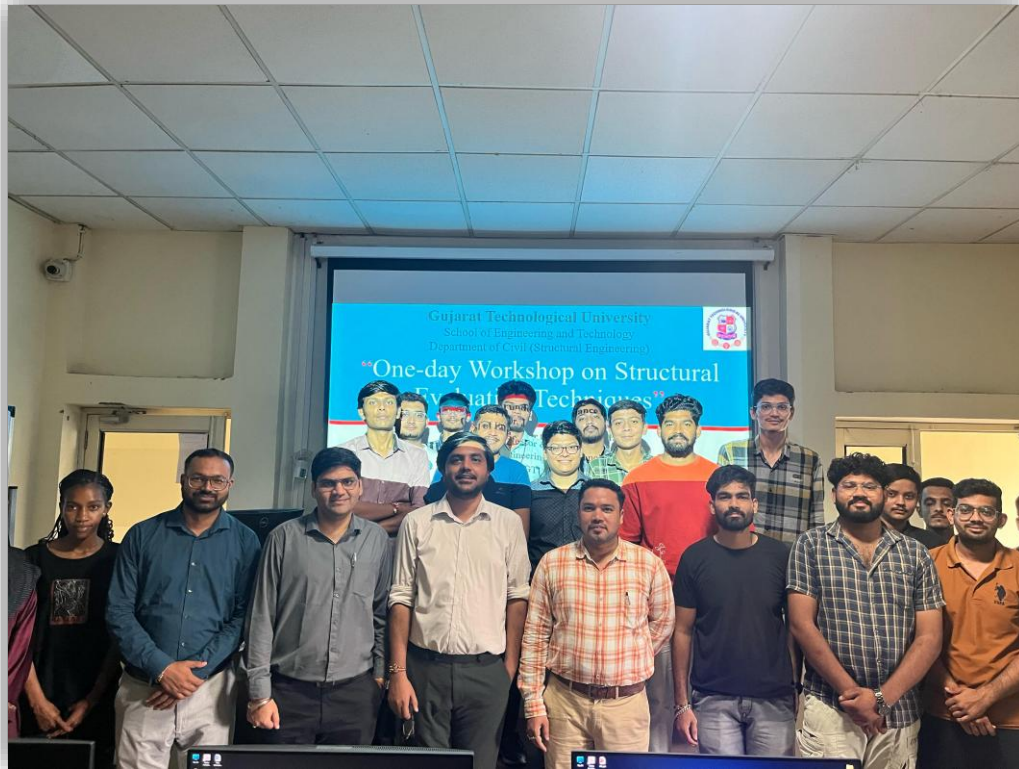# Afternoon Session: Nonlinear Static Pushover Analysis

Topic: Seismic Performance Evaluation of RC Frames using SAP2000

The afternoon session was led by Dr. Kaushik Gondaliya, who delivered a detailed presentation on seismic performance evaluation techniques. The session covered:

- In-depth theoretical explanation of pushover analysis.
- Concepts of displacement control vs. force control, hinge formation, and capacity spectrum.
- Demonstration of nonlinear modeling and solver settings in SAP2000.
- Base shear vs. displacement interpretation.
- Case study discussion and Q&A.

[Dr. Kaushik Gondaliya presenting]

[Group discussion]

Participation

A total of **23 students** participated in the workshop, actively engaging in both the hands-on sessions and the expert lectures.

Key Takeaways

- Practical exposure to Rebound Hammer Testing for structural health monitoring.
- Understanding of seismic performance evaluation using Nonlinear Static Pushover Analysis in SAP2000.
- Hands-on experience in both field testing and software-based structural evaluation.

Conclusion

The workshop provided a valuable platform for students, researchers, and professionals to bridge the gap between theoretical concepts and practical implementation in structural evaluation. All participants received E-Certificates for their active involvement. The event concluded with a vote of thanks to the speakers, coordinators, and attendees for their contribution to the workshop's success.

Organizing Committee

Faculty Coordinator: Dr. J. A. Amin
Expert Speaker: Dr. Kaushik Gondaliya
Student Coordinators: Parth Gediya, Amirah Shaikh, Ashish Rabadiya (PG – Civil, GTU-SET)