



**MGR ASSOCIATION FOR GREAT INNOVATIVE CREATORS**

Department of Civil Engineering

Event Title	Subject Lecture on Structural dynamics and earthquake engineering		
Objective of Event	The objective of the Subject Lecture on “Structural Dynamics & Earthquake Engineering” is to explore the dynamic behavior of structures and their response to earthquake forces, with the aim of designing structures that are safe, resilient, and capable of		
Chief Guest /Speaker Details	DR.B.VIJAYA, Professor, Dr Mgr Educational Research Institute Maduravoyal		
Date	02/02/2026	Time	02.00 PM to 03.00 PM
Venue	Civil Smart Room	No. of Participants	14

REPORT

TITLE

Subject Lecture on Structural dynamics and earthquake engineering

CONTENT

The Subject Lecture on “Structural Dynamics & Earthquake Engineering” likely covered the following key outcomes:

Introduction

- The Subject Lecture on “Structural Dynamics & Earthquake Engineering” was organized to enhance students’ understanding of structural behavior under dynamic and seismic forces.
- The session aimed to bridge theoretical concepts with practical engineering applications.

Understanding Structural Dynamics

- Explanation of basic concepts such as degrees of freedom, natural frequency, damping, and vibration modes.
- Analysis of structural response to dynamic loads compared to static loads.
- Importance of dynamic analysis in modern structural design.

Earthquake Engineering Concepts

- Overview of earthquake causes, seismic waves, and ground motion characteristics.
- Introduction to response spectrum and time-history analysis methods.
- Discussion on seismic demand and structural performance during earthquakes.



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Maduravoyal, Chennai - 600 095, Tamilnadu, India.

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### Earthquake-Resistant Design

- Principles of ductility, stiffness, strength, and energy dissipation.
- Importance of redundancy and proper detailing in seismic design.
- Brief overview of relevant seismic design codes and standards.

### Practical Applications and Case Studies

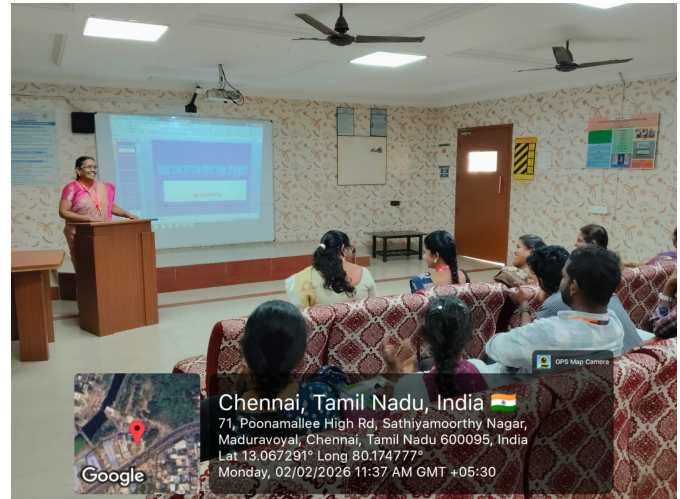
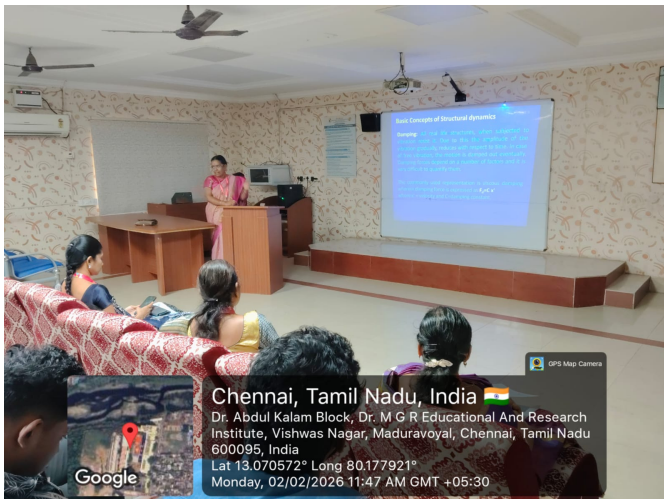
• Study of real earthquake events to understand structural failures and successes.

- Lessons learned from past earthquakes for safer structural design.

### Conclusion

• The lecture enhanced students' analytical skills and awareness of seismic safety.

• It reinforced the need for resilient, safe, and sustainable structural design practices.



## EVENT OUTCOME

The event outcome of the Subject Lecture on “Structural Dynamics & Earthquake Engineering” is to equip participants with knowledge of dynamic structural behavior, seismic analysis methods and earthquake-resistant design principles for real-world engineering applications.

## PHOTOS



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Dr.V.Priyadarshini