

GoI-GSDMA-UNDP

URBAN EARTHQUAKE VULNERABILITY REDUCTION PROGRAM

Ahmedabad Municipal Corporation

**Training Program on Basics of Earthquake Engineering for Civil
Engineering Students**

Supported by L D College of Engineering, Ahmedabad



Participants: 99 Students of Final year of BE/ME Civil Engineering from various institutes of Ahmedabad & other cities of Gujarat.

Resource Persons: Prof. C S Sanghvi & other experts from Applied Mechanics Department of L D College of Engineering, Ahmedabad.

Duration: 1-2 & 27-28 September 2006

Venue: Seminar Hall no. 622, Applied Mechanics Department of L D College of Engineering, Ahmedabad.

Rationale

As someone says that “Earthquake never kills anyone but our poor construction do that”. While we talk about construction our mind quickly think about construction materials, engineers, architects, builders, masons etc that everyone has different role in construction process. Engineering students those who will be future practicing engineers & will associate with construction process. Normally they have been educated about Earthquake Engineering in curriculum but specific training is needed for detail of Earthquake Engineering. Now Ahmedabad City is going to be MEGA city. It leads city as ‘Forest of Concrete’. Ahmedabad City falls in Zone-III in terms of Earthquake so it is necessary to adopt Earthquake Resistant Construction Technology & orient future engineers in Earthquake Engineering.

About Program:

Keeping this rationale in mind, Ahmedabad Municipal Corporation has organized Twice Two Days Training Program on Basics of Earthquake Engineering for Engineering Students under UEVR Program on 1st & 2nd September 2006 and 27th & 28th September 2006 with the support of L D College of Engineering, Ahmedabad.

NUNV-Project Officer has started program with conceptual understanding of UEVRP.

Topics Covered

Topics covered viz.

- Seismology
- Structural dynamics
What is load force, Types of load in different disaster, How earthquake being load to structures, Ground shaking during earthquake, Impact of ground shaking on structure as horizontally & vertically, Analysis of structure based on equilibrium condition, Identification of forces due to ground shaking, Scope of static & dynamic analysis as per static and dynamic load, Lateral load resistance system identification and one motion parameter need identification.
- Concept of Earthquake resistance design
- Ductile detailing
- Observation of past earthquake

- Quality control on site
- Rapid Visual Screening
- Retrofitting
- Site Visit
- RVS Exercise of structures



Subjective Lectures



Active Participation



Valedictory Session

Visit of Earthquake Engineering Laboratory

Earthquake Engineering Laboratory on earthquake resistant construction has been created by Applied Mechanics Department. Participants have visited it. Various structural models like Shake table of size 8 feet \times 4 feet, Base isolation, Tune Mass Damper, Gravity Balance System, Liquefaction, Bracing System, Seismic Wave Propagation, Ductile detailing as per IS 13920, Retrofitting of structures, Determination of natural frequency & Difference between wind load & earthquake load have been prepared.



Different Model in Earthquake Engineering Laboratory

Site Visit

Construction site visit organized at Himalaya Mall, a biggest mall of city. Participants observed on going construction with keeping view of new learning.

RVS of Buildings

All students have been divided in ten groups & carried out Rapid Visual Screening of 10 structures of L D College of Engineering & other outside buildings.

Findings:

All participants have filled feedback form & some of the participants shared their views on overall training program.

Learning:

Chintan D Patel said that It was very fruitful for us. RVS topic was new for all which was highlighted very well as well as ductility fundamentals and base isolation.

T Pradeepchandra said that the laboratory visit gave us idea to sum up the theoretical knowledge.

A L S V Suryanarayana said that I have learnt about the behaviour of the structures under the disastrous earthquake loads. Various myths have been destroyed and new valuable facts like base isolation system, rapid visual screening, dynamic analysis, calculating the earthquake forces.

Feed Back:

Saurin Mevada said that before this workshop I did not have the practical understanding about the Earthquake resistance construction and preventive measures of the Earthquake but now I can easily understand seismicity and I can trust that I may be able to make earthquake resistant structures.

Mihir Johi said that the workshop for earthquake by Urban Earthquake Vulnerability Reduction Program had given us new ranges of thoughts in our mind and made us to practice good structural engineering practices.

A L S V Suryanarayana said that it was a good program to make aware the upcoming engineers the need and purpose to construct earthquake resistant buildings.

Suggestions:

Akhilesh R Tank said that we would like to get more information about the software that is useful for analysis of structures in earthquake engineering.

Jalpa Pal said that we need such kind of workshops and also for other subjects to clear our concepts.

Dharmesh Patel said that good arrangement related to theory but as far as possible it also include practical model so theory being little clear.

Future Actions:

T Pradeepchandra said that I would like to give presentation on earthquake Resistant Building in our college.

Saurin Mevada said that I want to be a good structural engineer for designing the earthquake resistant structures.

Certificate to participants:

Certificate of Participation has been given to all participants.



Conclusion:

After completion of these twice two days training programs it is visualize in the feedbacks of participants that it was being quit fruitful for engineering students those who are up coming practicing engineers & will join growing construction process within short time.

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