Course Title: Earthquake Resistant Design (M Tech 2nd semester) : Code CSE-202

Course content details:

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| Chap. No | Title |
| 1 | General Introduction |
| 2 | Engineering Seismology/Geology, Relevant Aspects |
| 3 | Basic Concepts About Structural Response to Earthquake shaking |
| 4 | IS 1893 Code: General Provisions for Seismic Analysis and Design |
| 5 | Earthquake Resistant Design & Detailing of R C C Buildings |
| 6 | Earthquake Resistant Design of Brick Masonry Structures: IS 4326 |
| 7 | Relevant IS Codal Guidelines for Earthquake Resistant Design/ Strengthening of Non-Engineered structures |
| 8 | Introduction about Earthquake Resistant Design of Bridges |

Assignments

1. (a) Discuss earthquake problems and its devastating impact on the society. Also discuss

importance of earthquake resistant design for mitigation of earthquake disasters.

(b) Role and responsibility of civil/structural engineers and architects for mitigation of

earthquake disasters.

(c) What was the practice adopted for handling earthquake problems prior to

development of current earthquake resistant design methodology?

2) (a) Discuss the key aspects of engineering seismology particularly the ground motion

characteristics and their importance in performing earthquake resistant design.

(b) Discuss the role of seismologists for making their valuable contribution towards

mitigation f earthquake disasters

1. (a) Explain, what happens to a structure (building) during an earthquake ground

shaking?

(b) Give comparison between earthquake resistant design strategies *vs.* Conventional

design practice adopted for no-seismic design loads.

(c) Discuss earthquake demand *vs.* earthquake capacity.

(d) Comparison between forced based design *vs.* displacement design

Strict instructions to be followed while completing the assignments:

1. All the students must complete their assignments independently, and should not share them with other classmates. Any matching assignment copies will be rejected, and no marks will be awarded for such submissions.
2. In addition to the sample material (Chapter 1-4) uploaded on the institute website, the students must also download updated latest material from various search engines and include the same in their assignments.