

# GUJARAT TECHNOLOGICAL UNIVERSITY

M.E Semester: 2

**Civil Engineering (Computer Aided Structural Analysis & Design)**

**Subject Name** Disaster Resistant Structures (Major Elective - III)

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Sr. No	Course content
1.	Introduction: Philosophy for design to resist earthquake, cyclone and flood - National and International codes of practice - By-Law of urban and semi-urban areas - Traditional and modern structures.
2.	Response of dams, bridges, buildings - Strengthening measures - Safety analysis and rating – Reliability assessment.
3.	Testing and evaluation - Classification of structures for safety point of view - methods of strengthening for different disasters - qualification test.
4.	Use of modern materials and their impact on disaster reduction - Use of modern analysis, design and construction techniques optimisation for performance.
5.	Damage surveys - Maintenance and modifications to improve hazard resistance - Different types of foundation and its impact on safety - Ground improvement techniques.

## **Reference Books :**

1. Concrete and Reinforced Concrete  
- Deterioration and Protection  
- V.Moskvin ,Mir Publishers  
-Moscow 1980.
2. Repair of Concrete Structures  
- R.T.Allen and S.C.Edwards Blakie  
and Sons, U.K 1987.
3. Learning from failures Deficiencies in Design  
-Raiker R.N. R & D Center (SDCPL)
4. Construction and Service  
Raiker Bhavan, Bombay , 1987.