

DEPARTMENT OF CIVIL ENGINEERING
GOVERNMENT POLYTECHNIC SUNDERNAGAR

LESSON PLAN FOR Earthquake Resistant Building Design (SEMESTER-5TH)SESSION: (Aug-Dec 2025)				
S.No.	MONTH	WEEK	CONTENTS	REMARKS
1	August	Week 2	Unit I: Elements of Engineering Seismology: General features of tectonic of seismic regions Causes of earthquakes Seismic waves	
		Week 3	Earth quake size (magnitude and intensity) Epicenter Seismograph Classification of earthquakes Seismic zoning map of India	
		Week 4	Unit II: Seismic Behaviour of Traditionally-Built Constructions of India: Earth quake effects Traditionally built construction in India	
		Week 5	Performance of building during earthquakes and Mode of failure (Out of plane failure, in plane failure, Diaphragm failure, Connection failure, Non-structural components failure)	
2	September	Week 1	Unit III: Introduction to IS1893 (Part-I)-2016: Introduction & Assumptions	
		Week 2	Design lateral forces and their calculation methods Class Test -1 Will be held this week.	
		Week 3	Unit IV: Ductile Detailing of Reinforced Concrete Buildings (IS 13920-2016) & IS 4326-2013) : Common modes of failure in reinforced concrete buildings ♦ General Principal for earthquake resistant buildings & Special construction features	
		Week 4	Types of irregularities Vertical irregularities Plan irregularities Ductile detailing as per code Seismic strengthening arrangements Horizontal reinforcement Vertical reinforcement	
		Week 5	Unit V: Introduction to IS13828-1993 & IS13827-1993: Advantages and disadvantages of masonry construction Behaviour of masonry construction during earthquakes.	
3	October	Week 1	Earthquake resistance features for burnt clay brick in weak mortar Codal Provisions for earthquake resistant earthen construction. Seismic strengthening features of earthen buildings	
		Week 2	Unit VI: Retrofitting Measure for Traditionally Built Construction: Introduction, need of retrofitting Retrofitting materials Retrofitting measure of traditionally built construction	
		Week 3	Retrofitting of masonry buildings Retrofitting of concrete structure Retrofitting of low-cost buildings Class Test -2 Will be held this week.	
		Week 4	Unit VII: Disaster Management: Disaster rescue Psychology of rescue, rescue workers, rescue plan, rescue by steps.	
		Week 5	Rescue equipment Safeties in rescue operations.	

4	November	Week 1	Debris clearance Causality management	
		Week 2	House Test will be held this week	
		Week 3	Revision of Previous Year Question Papers	
		Week 4	Revision of Previous Year Question Papers	
		Week 5	Revision of Previous Year Question Papers	

Ishan

Signature of Teacher
(Er Ishan Sharma)

Anita

Signature of H.O.D
(Er Anita Joshi)