

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BRANCH NAME: B.ID.**  
**SUBJECT NAME: STRUCTURE – III**  
**SUBJECT CODE: 2X35108**  
**2nd Year, Semester: 3**

**Prerequisite:**

It is mandatory to complete Structure – II in order to opt for this course.

**Rationale:**

- To understand basic **principles of renovation**. To study components of a building project.

**Teaching and Assessment Scheme:**

Teaching Scheme			Credits C	Examination Marks				Total Marks	University Exam Type
Lectures	Tutorials	Studio		External exam		Internal exam			
				(ESE)Theory	(ESE) Viva	(PA)Theory	(PA)Viva		
2	0	0	2	50	00	50	00	100	EXAM

**Content:**

Sr. No.	Content	Total Hours*	% Weightage*
1	<b>Unit 1 :</b> General Building requirements for renovation, reconstruction and adaptive reuse	10	30
2	<b>Unit 2 :</b> Renovation of load bearing & framed structures. Introduction and types of concepts of scaffolding, shoring, underpinning, retaining walls Removing walls, strengthening foundations, creating supports using steel / concrete, columns/ beams. Adding lintels, creating openings.	12	40
3	<b>Unit 3 :</b> Causes and prevention of cracks in buildings, investigations relating cracks. Causes of occurrence of cracks, severity of cracks.	10	30

**Reference Books:**

1. Engineering Mechanics – R.K. Bansal and Sanjay Bansal ,Laxmi Publications, NewDelhi.
2. Publications, NewDelhi.
3. Engineering Mechanics – R.S.Khurmi
4. Building Construction – Sushilkumar

**List of Projects/Assignments\*:**

Presentations, models, case studies, and analysis of structural systems in the above- mentioned framework.

\*- this is suggestive for common purpose. Faculty may decide on this, considering student group and institution