LESSON PLAN OF 5TH SEMESTER(2026-27) CIVIL ENGINEERING

Discipline: CIVIL ENGG.	Semester:-5TH	Name of the Teaching Faculty BIBHU RANJAN SAMAL(SR.LECTURER)
Subject:- DESIGN OF RCC STRUCTURES(TH:2)	No of Days/per Week Class Allotted :-03	Semester From:- 01/07/2026 To:- 05/11/2026 No of Weeks:- 19
Week	**Class Day**	**Theory/ Practical Topics**
1st	1st	**Design Philosophies, Shear, Bond and Development length in Design of RCC member** Design Philosophies, Design of Singly Reinforced beam for Flexure using LSM.
	2nd	Design of Doubly Reinforced beam for Flexure using LSM.
	3rd	Nominal shear stress in RCC section, Design shears strength of concrete.
2nd	1st	Design of shear reinforcement,
	2nd	Minimum Shear Reinforcement, Provisions of IS 456 2000, forms of shear reinforcement.
	3rd	Types of bond, Bond stress,
3rd	1st	check for bond stress
	2nd	Determination of Development length in tension members
	3rd	Check as per codal provisions, Anchorage value of 90o hook,
4th	1st	Check as per codal provisions, Lapping of bars.
	2nd	Problem Practice.
	3rd	Problem Practice.
5th	1st	Problem Practice.
	2nd	Determination of Development length in compression members
	3rd	Problem Practice.
6th	1st	Check as per codal provisions, Anchorage value of 90o hook, Lapping of bars.
	2nd	Problem Practice.
	3rd	Simple numerical on: Shear reinforcement, Adequacy of section for shear.
7th	1st	Problem Practice.
	2nd	Introduction to serviceability limit state check
	3rd	**Design of axially loaded RCC Column** Definition and classification of column.
8th	1st	Limit state of compression members, Effective length of column.
	2nd	Provisions of IS 456 2000 for minimum steel, cover.
	3rd	Provisions of IS 456 2000 for maximum steel, spacing of ties etc.
9th	1st	Design of axially loaded short column - Square
	2nd	Design of axially loaded short column - Rectangular
	3rd	Design of axially loaded short column -Circular
10th	1st	**Design of RC flanged beam** General features of T and L beams,
	2nd	Advantages, Effective width as per BIS 456 2000
	3rd	Design of singly reinforcement T beam
11th	1st	Stress and Strain diagram, Depth of neutral axis,
	2nd	Moment of resistance of T beams with neutral axis in flange only.
	3rd	Moment of resistance of L beams with neutral axis in flange only.
12th	1st	Problem Practice.
	2nd	Simple numerical on location of neutral axis.
	3rd	Simple numerical on Effective width of flange.

13th	1st	**Design of slab** Design of simply supported one-way slab for flexure,
	2nd	Design of simply supported one-way slab for shear.
	3rd	Design of simply supported one-way slab for deflection and checks, as per the provisions of BIS 456.
14th	1st	Design of one-way cantilever slab,
	2nd	Design of Chajjas
	3rd	Design of Flexure including checks for Development length and Shear stress.
15th	1st	Design of two-way simply supported slab
	2nd	Problem Practice
	3rd	Problem Practice
16th	1st	Introduction to design of dog-legged staircases
	2nd	Problem Practice
	3rd	Problem Practice
17th	1st	**Design of Footing** Design of footing for axially loaded column only.
	2nd	Problem Practice
	3rd	Problem Practice
18th	1st	Minimum Eccentricity
	2nd	Design of Footing for uni-axial bending column
	3rd	Problem Practice
19th	1st	Problem Practice
	2nd	Design of Footing with uni- axial moment as per IS 456 provisions.
	3rd	Problem Practice

LECTURER

23.06.2025
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