

Lesson Plan

Course - Design of RCC Structure (Th-2)

Semester- 5th

Program- Civil Engineering

Institute - Govt. Polytechnic, Sonpur

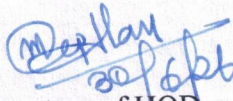
Session - 2026-2027

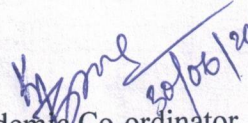
Total Load-45(3 /week)

Sl. No.	Week No.	Class No.	Topic to be Covered
1	1	Class 1	Unit I: Introduction to RCC Design, Design Philosophies and Limit State Method
2	1	Class 2	Design of Singly Reinforced RCC Beam for Flexure using LSM
3	1	Class 3	Design of Doubly Reinforced RCC Beam for Flexure using LSM
4	2	Class 1	Nominal Shear Stress in RCC Sections
5	2	Class 2	Design Shear Strength of Concrete
6	2	Class 3	Design of Shear Reinforcement and Forms of Shear Reinforcement
7	3	Class 1	Minimum Shear Reinforcement and IS 456:2000 Provisions
8	3	Class 2	Types of Bond, Bond Stress and Check for Bond Stress
9	3	Class 3	Development Length in Tension Members
10	4	Class 1	Development Length in Compression Members
11	4	Class 2	Anchorage Value of 90° Hook and Lapping of Bars
12	4	Class 3	Numerical Problems on Shear Reinforcement and Adequacy of Section for Shear
13	5	Class 1	Serviceability Limit State – Introduction and Codal Provisions
14	5	Class 2	Revision and Numerical Problems on Unit I
15	5	Class 3	Unit I Tutorial and Problem Solving
16	6	Class 1	Unit II: Definition and Classification of Columns
17	6	Class 2	Limit State of Compression Members and Effective Length of Columns
18	6	Class 3	IS 456:2000 Provisions – Minimum Steel, Maximum Steel, Cover and Spacing of Ties
19	7	Class 1	Design of Axially Loaded Short Square RCC Column
20	7	Class 2	Design of Axially Loaded Short Rectangular RCC Column
21	7	Class 3	Design of Axially Loaded Circular RCC Column and Numerical Problems
22	8	Class 1	Unit III: General Features and Advantages of T and L Beams
23	8	Class 2	Effective Width of Flange as per IS 456:2000
24	8	Class 3	Design of Singly Reinforced T-Beam
25	9	Class 1	Stress-Strain Diagram, Neutral Axis and Moment of Resistance
26	9	Class 2	T and L Beams with Neutral Axis in Flange Only
27	9	Class 3	Numerical Problems on Neutral Axis and Effective Width

28	10	Class 1	Unit IV: Design of Simply Supported One-Way Slab for Flexure
29	10	Class 2	Shear, Deflection and Codal Checks for One-Way Slab
30	10	Class 3	Design of One-Way Cantilever Slab and Chajjas
31	11	Class 1	Development Length and Shear Stress Checks in Cantilever Slab
32	11	Class 2	Design of Two-Way Simply Supported Slab
33	11	Class 3	Numerical Problems on Slab Design
34	12	Class 1	Design of Dog-Legged Staircase – Introduction and Components
35	12	Class 2	Staircase Design Concepts and Codal Provisions
36	12	Class 3	Revision and Numerical Problems on Slab Design
37	13	Class 1	Unit V: Introduction to RCC Footings and Types
38	13	Class 2	Design of Footing for Axially Loaded Column
39	13	Class 3	Minimum Eccentricity in Footing Design
40	14	Class 1	Design of Footing for Uniaxial Bending
41	14	Class 2	Design of Footing for Column with Uniaxial Moment as per IS 456
42	14	Class 3	Numerical Problems on Footing Design
43	15	Class 1	Comprehensive Numerical Problems on RCC Beam, Column and Slab Design
44	15	Class 2	Comprehensive Numerical Problems on Footing Design and Codal Provisions
45	15	Class 3	Overall Revision, Design Procedure Review and End Semester Preparation


 Signature of Faculty
 Civil Engg, GP Sonpur


 Signature of HOD
 Civil Engg, GP Sonpur


 Academic Co-ordinator
 Civil Engg, GP Sonpur