10/03/22 to 10/06/22 2022 (S)

Lesson Plan

Subject STRUCTURAL DESIGN-I (Code) TH-1 Name of faculty Saeqa Khatun

Semester 4TH Class allotted 75 periods (5P/W) Branch CIVIL ENGG.

Discipline	Semester	From date: 10/03/22 To date: 10/06/22	Teaching Aid
Subject:	No. of days/ per week 5P/W :	Theory/ Practical – Topics/Lesson	
Week	Date/Period	Ch-1 Working stress Method :- Objectives	
1	10/03/22 to 12/03/22	of design & detailing. State the different Methods of design of Concrete Structure Introduction to reinforced concrete, R.C. Sections their behaviour, grades of concrete & steel. Permissible stresses.	
2	14/03/22 to 19/03/22	Assumption in W.S.M. Flexural Design & analysis of single reinforced section, Under reinforced, over-reinforced & balanced sections. Advantages & disadvantages of WSM,	
3	21/03/22 to 26/03/22	Ch-2:- LSM :- Advantages of LSM over WSM Types of Limit states, Partial safety factors for materials strength, Characteristics strength, Characteristic load, design load, loading on structure.	
4	28/03/22 to 02/04/22	I.S. specification regarding spacing of reinforcement in slab, cover to reinforcement in slab, beam column & footing. Min^m reinforcement in slab, beam & column, lapping, anchorage, effective span etc.	
5	04/04/22 to 09/04/22	Ch-3 Assumptions. Stress-Strain relationship for concrete & steel. neutral axis, stress block diagram & strain diagram for singly reinforced section: Concept of under-reinforced, over-reinforced & limiting section, N.A. co-efficient, limiting value of M.O.R.	
6	11/04/22 to 16/04/22	Analysis & design : design constants. Moment of resistance & area of steel for rectangular sections. Necessity of doubly reinforced section design of doubly reinforced rectangular section.	
7	18/04/22 to 23/04/22	Ch-4 Nominal shear stress in R.C. section, design shear strength of concrete, max^m shear stress, design of shear reinforcement, Min^m shear reinforcement, forms of shear reinforcement. Bond & development length	

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Week	Date/Period	Theory/ Practical – Topics/Lesson	Teaching Aid
8	25/04/22 to 30/04/22	Numerical Problems on Shear reinforcement is required or not Check for adequacy Design of Shear reinforcement · Min^m Shear reinforcement in beams	
9	02/05/22 to 07/05/22	Ch-5 Advantages, effective width of flange Analysis of singly reinforced T-beam, Strain diagram & Stress, depth of N.A. M.R. of T-beam Section with N.A. lying within the flange	
10	09/05/22 to 14/05/22	Problems on effective flange width · M.O.R. of T-beam Section when N.A. lies within or up to the bottom of flange.	
11	17/05/22 to 21/05/22	Ch-6 Design of Simply supported one-way slabs for flexure Check for deflection control & shear · Design of one-way cantilever slabs & cantilever chajjas, Check for deflection etc.	
12	23/05/22 to 28/05/22	Design of two-way simply supported slabs for flexure with corner · Design of dog-legged staircase · Detailing of reinforcement in stairs spanning longitudinally.	
13	31/05/22 to 04/06/22	Ch-7 Assumptions in limit state of collapse-compression · classification of columns, effective length of column Min^m reinforcement, cover, no. of bars in rectangular, square & circular etc.	
14	06/06/22 to 10/06/22	Design of axially loaded short square, rectangular & circular columns · Types of footing, Design of isolated square column footing of uniform thickness for flexure & shear.	
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