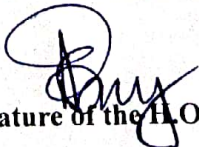


LESSON PLAN

Name of the Institute :		C.V. Raman Polytechnic, BHUBANESWAR
Department :		CIVIL ENGINEERING
Semester/Division/Branch :		4th SEM / CIVIL
Subject Name with code :		Structure Design-I/ Th-1
Total No. of Class (Required) :		75
Faculty Name :		SAFALYA MOHANTY
Class No.	Brief Description of the Topic/Chapter to be taught	Remarks
1	Working stress method (WSM) :-	
2	Objectives of design and detailing	
3	State the different method of design of concrete structure	
4	Introduction to reinforced concrete	
5	R.C. section their behavior	
6	Grades of concrete and steel	
7	Permissible stresses	
8	Assumption in w.s.m.	
9	Basic concept of under reinforced	
10	Over reinforced and balanced section	
11	Flexural design & analysis of singly reinforced section	
12	Design and analysis of double reinforced section	
13	Limit state method , definition, types of limit state	
14	Partial safety factors, characteristic strength	
15	Characteristic load, design load, loading on structure	
16	IS specification regarding spacing of reinforced in slab	
17	Cover to reinforcement in slab, beam column and footing	
18	Analysis and design of singly reinforced section	
19	Limit state of collapse, assumptions	
20	Stress- strain relationship for concrete and steel	
21	Neutral axis, stress block dig., strain diagram	
22	Concept of under reinforced	
23	Concept of over reinforced and limiting section	
24	N.A. co-efficient , limiting value of moment of resistance	
25	Limiting % of steel required for limiting singly r.c. section	
26	Numerical problems on determining design constants.	
27	MOR of steel for rectangular section	
28	Analysis and design of doubly reinforced section and features	
29	Necessity of providing doubly reinforced section & limitations	
30	Analysis of doubly reinforced section	
31	Strain diagram, stress diagram	
32	Depth of N.A. ,MOR of rectangular section	
33	Numerical problems on find MOR & design	
34	Shear stress in R.C. section , design shear strength	

35	Maximum shear stress, design of shear reinforcement	
36	Minimum shear reinforcement, forms of shear reinforcement	
37	Bond and bond type, bond stress, check for bond stress	
38	D.L. in tension & compression, check for development length	
39	Numerical problem	
40	Analysis & design of T- beam, general features	
41	Effective width of flange, analysis of singly reinforced T- beam	
42	Strain and stress diagram, depth of neutral axis	
43	MOR of t beam section with neutral axis lying within the flange	
44	Design of t beam for moment and shear for N.A	
45	Simple numerical problems	
46	Simple numerical problems	
47	Simple numerical problems	
48	design of slab and stair case	
49	Design of simply supported one way slabs	
50	Check for deflection control and shear	
51	Design of one way cantilever slabs	
52	Flexure check for deflection control	
53	Check for development length and shear	
54	Design of two way simply supported slabs	
55	Design of two way simply supported slabs for flexure	
56	Design of dog legged stair case	
57	Design of cantilever staircase	
58	Numerical problems	
59	Numerical problems	
60	Numerical problems	
61	Numerical problems	
62	Design of axially loaded columns and footing	
63	Assumption in limit state of collapse compression	
64	Definition and classification of columns	
65	Effective length of column, specification for minimum reinforcement cover	
66	Maximum reinforcement, no. of bars in rectangular	
67	Square & circular section, diameter and spacing of lateral ties	
68	Analysis and design of axially loaded short, square, rectangular ties	
69	Check for short column and minm eccentricity may be applied	
70	Types of footing	
71	Design of isolated square column footing for flexure	
72	Design of isolated square column footing for shear	
73	Design of strip footing for wall	
74	Simple numerical problems	
75	Simple numerical problems	


Signature of the Faculty


Signature of the H.O.D