LESSON PLAN

Name of the Institute :	**C.V. RAMAN POLYTECHNIC, BHUBANESWAR**
Department :	**CIVIL ENGINEERING**
Semester/Division/Branch :	**5TH / CIVIL**
Subject Name with code :	**STRUCTURAL DESIGN– II (TH.2)**
Total No. of Class (Required) :	**60**
Faculty Name :	**SUMITRA PARIDA**

Class No.	Brief Description of the Topic/Chapter to be taught	Remarks
1	Introduction, Common steel structures and their advantages & disadvantages.	
2	Types of steel, properties of structural steel,Rolled steel sections & special considerations in steel design.	
3	Loads and load combinations, Structural analysis and review of Principles of Limit State design.	
4	Bolted Connections, its classification, advantages & disadvantages, terminology, spacing and edge distance of bolt holes.	
5	Types of bolted connections	
6	Types of action of fasteners,its assumptions and principles of design	
7	Strength of plates in a joint & bearing type bolts	
8	Analysis & design of Joints and its efficiency.	
9	Welded Connections and its advantages and disadvantages, Types of welded joints and its specifications.	
10	Design stresses in welds and Strength of welded joints.	
11	Reduction of design stresses for long joints.	
12	Introduction to tension member its Common shapes and design strength .	
13	Yielding of gross cross section.	
14	Rupture of critical section.	
15	Concept of block shear & Maximum values of effective slenderness ratio.	
16	Analysis of tension members.	
17	Design of tension members.	
18	.....DO.....	
19	Introduction to compression members & its shapes.	
20	Bulking class of cross sections and slenderness ratio.	
21	Design compressive stress and strength of compression members.	
22	.....DO.....	
23	Analysis of compression members.	
24	.....DO.....	
25	Design of compression members.	
26	.....DO.....	
27	introduction to column bases their types and suitability.	
28	Design of slab base subjected to axial load with concrete footing.	
29	.....DO.....	
30	Design of gusseted base with axial loading with concrete footing.	
31	.....DO.....	
32	.....DO.....	
33	Steel beam's cross sections and classification.	

34	Plastic moment capacity of sections	
35	moment capacity and shear resistance.	
36	Deflection limits, web buckling and web crippling.	
37	Design of laterally supported beams. (against bending and shear)	
38	.....DO.....	
39	Types of built up sections and design of simple built up sections.	
40	.....DO.....	
41	Round tubular sections & permissible stresses.	
42	Tube columns and compression members, crinkling.	
43	Tube tension members and tubular roof trusses.	
44	Joints in tubular trusses	
45	Design of tubular beams and purlins.	
46	.....DO.....	
47	Introduction to Timber Structures, timber types, grading, defects & permissible stresses.	
48	Design of axially loaded timber columns	
49	.....DO.....	
50	Design of simple timber structural elements in flexure.	
51	.....DO.....	
52	Inrtoduction to Masonry Structures,& Design consideration for masonry walls .	
53	Load bearing walls and its properties	
54	.....DO.....	
55	.....DO.....	
56	Non-Load bearing walls	
57	.....DO.....	
58	Design consideration for masonry columns, piers and buttresses.	
59	.....DO.....	
60	Design considerations for masonry wall footings.	

Signature of the Faculty

Signature of the H.O.D