

KIIT POLYTECHNIC, BHUBANESWAR

LESSON PLAN

Session (2022-2023)

Discipline : CIVIL ENGINEERING	Semester:5th sem,winter/2022	Name of the Teaching Faculty: Suchismita Padhi(Lecturer) Email ID: Suchismita.padhifce@kp.kiit.ac.in
Subject:Structural Design-II(Th.2)	No. Of Days/Week Class Allotted :04	Start Date :14/09/22 End Date:21/01/23
Week	Class Day	Theory Topics
1 st	1st	Common steel structures.
	2nd	Advantages & disadvantages of steel structures.
	3rd	Types of steel, properties of structural steel.
	4th	Rolled steel sections.
2 nd	1st	special considerations in steel design.
	2nd	Loads and load combinations.
	3rd	Structural analysis and design philosophy
	4th	Brief review of Principles of Limit State design.
3 rd	1st	Bolted Connections
	2nd	Classification of bolts.
	3rd	advantages and disadvantages of bolted connections
	4th	Different terminology, spacing and edge distance of bolt holes.
4 th	1 st	Types of bolted connections.
	2 nd	Problems on bolted connection
	3 rd	Problems on bolted connection
	4 th	Types of fasteners
5 th	1 st	Class test
	2 nd	Strength of plates in a joint, strength of bearing type bolts (shear capacity& bearing capacity) assumptions and principles of design
	3 rd	reduction factors, and shear capacity of HSFG bolts

	4 th	Analysis & design of Joints using bearing type and HSFG bolts (except eccentric load and prying forces)
6 th	1 st	Quiz test
	2 nd	Problems on HSFG bolt.
	3 rd	Efficiency of a joint.
	4 th	problems
7 th	1 st	Doubt clearing class
	2 nd	Welded Connections:
	3 rd	Advantages and Disadvantages of welded connection
	4 th	Types of welded joints .
8 th	1 st	Design stresses in welds.
	2 nd	Strength of welded joints
	3 rd	specifications for welding
	4 th	Problems
9 th	1 st	Problems
	2 nd	Common shapes of tension members.
	3 rd	Maximum values of effective slenderness ratio.
	4 th	Analysis and Design of tension members.(Considering strength only and concept of block shear failure.
10 th	1 st	problems
	2 nd	problems
	3 rd	Common shapes of compression members
	4 th	Builtup sections
11 th	1 st	Buckling class of cross sections, slenderness ratio
	2 nd	Design compressive stress and strength of compression members
	3 rd	Analysis and Design of compression members (axial load only).
	4 th	Problems
12 th	1 st	Doubt clearing class
	2 nd	Common cross sections and their classification.
	3 rd	Deflection limits, web buckling and web crippling.
	4 th	Design of laterally supported beams against bending and shear
13 th	1 st	Problems
	2 nd	Quiz Test

	3 rd	Round Tubular Sections, Permissible Stresses
	4 th	Tubular Compression & Tension Members
14 th	1 st	Joints in Tubular trusses
	2 nd	Problems
	3 rd	Class test
	4 th	Design considerations for Masonry walls & Columns
15 th	1 st	Load Bearing & Non-Load Bearing walls, Permissible stresses. Slenderness Ratio
	2 nd	Effective Length, Height & thickness
	3 rd	Problems
	4 th	revision