BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING

LESSON PLAN

SUBJECT: STRUCTURAL DESIGN II (TH 2)

FACULTY: SRI KANIT PALAKIA

ACCADEMIC SESSION: 2023-24

SEMESTER: 5TH

SEC: A

Sd/-
H O D (Civil Engg.)

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING
LESSON PLAN

Discipline: **Civil Engineering**	**Semester/ Section:** **5TH/ A**		**Name of the Teaching Faculty:** **SRI KANIT PALAKIA**
Subject: **Th2. Structural Design II**	**No. of Days/ per week class allotted: 04 period per week. (Tue, Thu, Fri & Sat)**		**Semester From Date: 01-08-2023 To Date: 30-11-2023** **No. of weeks: 17**
Week	**Class Day**	**No of period available**	**Topics to be covered**
1ST	01/08/2023	1	Introduction To steel structure
	03/08/2023	1	1.1 Common steel Structures, advantages and disadvantages of steel structure.
	04/08/2023	1	1.2 Type of steel, properties of structural steel.
	05/08/2023	1	1.3 Rolled steel sections, special consideration in steel design.
2ND	08/08/2023	1	1.4 Load and its combinations
	10/08/2023	1	1.5 Structural analysis and design philosophy, 1.6 Brief review of principle of limit state design.
	11/08/2023	1	2.1 Bolted connections. 2.1.1 Classification of bolts,
	12/08/2023	1	2.1.1 Advantages and disadvantages of bolted connection
3RD	17/08/2023	1	2.1.2 Different terminology, spacing and edge distance of bolt holes.
	18/08/2023	1	2.1.3 types of bolted connections
	19/08/2023	1	2.1.4 Types of action of fasteners, assumptions and principle of design
4TH	22/08/2023	1	Assumptions and principle of design
	24/08/2023	1	2.1.5 strength of plates in a joint, strength of bearing type of bolts
	25/08/2023	1	2.1.5 Reduction factors and shear capacity of HSFG bolts
	26/08/2023	1	2.1.6 Analysis and design of joint using bearing type and HSFG bolts.
5TH	29/08/2023	1	2.1.7 Efficiency of a joint
	31/08/2023	1	Problems on bolted connection
	01/09/2023	1	Problems on bolted connection

	02/09/2023	1	**Monthly Class Test - 1**
6TH	05/09/2023	1	2.2.1 Welded connections and its advantages and disadvantages.
	07/09/2023	1	2.2.2 Types of welded joints and specification of welding.
	08/09/2023	1	2.2.3 Design Stress in welds. 2.2.4 Strength in welded joints.
	09/09/2023	1	Problems related to bolted and welded connections.
7TH	12/09/2023	1	Problems related to bolted and welded connections.
	14/09/2023	1	Problems related to bolted and welded connections.
	15/09/2023	1	3.1 common shape of tension members, 3.2 maximum values of effective slenderness ratio.
	16/09/2023	1	3.3 analysis and design of tension members
8TH	21/09/2023	1	3.3 analysis and design of tension members
	22/09/2023	1	Problems on tension member
	23/09/2023	1	Problems on tension member
9TH	26/09/2023	1	Problems on tension member
	28/09/2023	1	Problems on tension member
	30/09/2023	1	4.1 common shapes of compression members
10TH	03/10/2023	1	4.2 buckling class of cross sections, slenderness ratio
	05/10/2023	1	4.3design compressive stress and strength of compression members
	06/10/2023	1	**Internal Assessment**
	07/10/2023	1	4.4 analysis and design of compression members (axial load only).
11TH	10/10/2023	1	4.4problems on compressive member **Internal Assessment**
	12/10/2023	1	4.4problems on compressive member
	13/10/2023	1	4.4problems on compressive member
12TH	17/10/2023	1	4.4problems on compressive member
	19/10/2023	1	5.1 Common cross sections and their classifications of steel beams
	20/10/2023	1	5.2deflection limits, web buckling and web crippling
13TH	31/10/2023	1	5.3 design of laterally supported beams against bending and shear

	02/11/2023	1	5.3 problem solving classes
	03/11/2023	1	5.3 problem solving classes
	04/11/2023	1	6.1 round tubular sections ,permissible stresses
14TH	07/11/2023	1	6.2 tubular compression and tension members
	09/11/2023	1	6.3 joints in tubular trusses
	10/11/2023	1	6.3 Problem solving classes
	11/11/2023	1	6.3 Problem solving classes
15TH	14/11/2023	1	7.1 design considerations of masonry walls.
	16/11/2023	1	7.1 Design considerations of columns
	17/11/2023	1	7.2 load bearing walls
	18/11/2023	1	7.2 load non bearing walls
16TH	21/11/2023	1	7.3 slenderness ratio, effective length, height and thickness
	23/11/2023	1	7.3 Analysis on masonry wall problems
	24/11/2023	1	7.3 Analysis on masonry wall problems
	25/11/2023	1	**Monthly Class Test-2**
17TH	28/11/2023	1	Previous year question discussion
	30/11/2023	1	Previous year question discussion
			Previous year question discussion
			Discussion