BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING

LESSON PLAN

SUBJECT: STRUCTURAL DESIGN-II (TH 2)

FACULTY: MISS IPSITA THAKUR (LECTURER)

ACCADEMIC SESSION: 2022-23

SEMESTER: 5th

SEC: B

Sd/-
H O D (Civil Engg.)

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Discipline: **Civil Engineering**	**Semester:** **5th / B**		**Name of the teaching faculty:** **MISS IPSITA THAKUR**
Subject: **Structural Design-II**	**No of days per week class allotted: 04 periods/week** **(Mon, Wed, Thu, Sat-1 period each)**		**Semester : From date: 10-10-2022 to date : 22-12-2022** **No of weeks: 14 weeks**
Week	**Class Day**	**No of period available**	**Theory/Practical topic**
1st	15/09/2022	1	1.1 Common steel structures, Advantages & disadvantages of steel structures. 1.2 Types of steel, properties of structural steel.
	17/09/2022	1	1.3 Rolled steel sections, special considerations in steel design. 1.4 Loads and load combinations.
2nd	19/09/2022	1	1.5 Structural analysis and design philosophy.
	21/09/2022	1	1.6 Brief review of Principles of Limit State design.
	22/09/2022	1	2.1 Bolted Connections 2.1.1 Classification of bolts, advantages and disadvantages of bolted connections.
	24/09/2022	1	2.1.2 Different terminology, spacing and edge distance of bolt holes.
	26/09/2022	1	2.1.3 Types of bolted connections. 2.1.4 Types of action of fasteners, assumptions and principles of design.
	28/09/2022	1	Monthly class test

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3rd	29/09/2022	1	2.1.5 Strength of plates in a joint, strength of bearing type bolts (shear capacity& bearing capacity), reduction factors.
	01/10/2022	1	2.1.7 Efficiency of a joint. 2.1.5 Strength of plates in a joint, strength of bearing type bolts (shear capacity& bearing capacity), reduction factors.
4th	10/10/2022	1	2.1.6 Analysis & design of Joints using bearing type bolt.
	12/10/2022	1	2.1.6 Analysis & design of Joints using bearing type bolt.
	13/10/2022	1	2.1.6 Analysis & design of Joints using HSFG bolts
	15/10/2022	1	2.1.6 Analysis & design of Joints using HSFG bolts
5th	17/10/2022	1	2.2 Welded Connections: 2.2.1 Advantages and Disadvantages of welded connection
	19/10/2022	1	2.2.2 Types of welded joints and specifications for welding
	20/10/2022	1	2.2.3 Design stresses in welds.
	22/10/2022	1	2.2.4 Strength of welded joints.
6th	26/10/2022	1	Discuss previous year questions
	27/10/2022	1	3.1 Common shapes of tension members.
	29/10/2022	1	3.2 Maximum values of effective slenderness ratio.

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7th	31/10/2022	1	3.4 Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)
	02/11/2022	1	Monthly class test
	03/11/2022	1	3.4 Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)
	05/11/2022	1	4.1 Common shapes of compression members. 4.2 Buckling class of cross sections, slenderness ratio
8th	07/11/2022	1	4.3 Design compressive stress and strength of compression members.
	09/11/2022	1	4.4 Analysis and Design of compression members (axial load only).
	10/11/2022	1	4.4 Analysis and Design of compression members (axial load only).
	12/11/2022	1	Discuss previous year questions
9th	14/11/2022	1	Problem solving from previous year questions
	15/11/2022	1	INTERNAL ASSESSMENT
	17/11/2022	1	Design of Steel beams: 5.1 Common cross sections and their classification.
	19/11/2022	1	5.2 Deflection limits, web buckling and web crippling.
	21/11/2022	1	5.3 Design of laterally supported beams against bending and shear.
	23/11/2022	1	5.3 Design of laterally supported beams against bending and shear.

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10th	24/11/2022	1	Discuss previous year questions
	26/11/2022	1	6.1 Round Tubular Sections, Permissible Stresses
11th	28/11/2022	1	6.2 Tubular Compression & Tension Members
	30/11/2022	1	6.3 Joints in Tubular trusses
	01/12/2022	1	6.3 Joints in Tubular trusses
	03/12/2022	1	Monthly class test
12th	05/12/2022	1	7.1 Design considerations for Masonry walls & Columns,
	07/12/2022	1	7.1 Load Bearing & Non Load Bearing walls, Permissible stresses,
	08/12/2022	1	7.1 Load Bearing & Non Load Bearing walls, Permissible stresses,
	10/12/2022	1	Numerical solution from the topic
13th	12/12/2022	1	7.1 Slenderness Ratio, Effective Length, Height & Thickness.
	14/12/2022	1	7.1 Slenderness Ratio, Effective Length, Height & Thickness.
	15/12/2022	1	Discuss previous year questions
	17/12/2022	1	Discuss previous year questions
14th	19/12/2022	1	Revision
	21/12/2022	1	Revision
	22/12/2022	1	Revision