BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING

LESSON PLAN

SUBJECT: STRUCTURAL DESIGN-II (TH 2)

FACULTY: MISS SHUBHASHREE MAHARANA

ACCADEMIC SESSION: 2024-25

SEMESTER: 5th

SEC: A

Sd/-
H O D (Civil Engg.)

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Discipline: **Civil Engineering**	**Semester:** **5th / A**		**Name of the teaching faculty:** MISS SHUBHASHREE MAHARANA
Subject: **Structural Design-II**	**No of days per week class allotted: 04 periods/week** **(Mon, Wed, Thu, Fri-1 period each)**		**Semester : From date: 01-07-2024 to date : 08-11-2024** **No of weeks: 18 weeks**
Week	**Class Day**	**No of period available**	**Theory/Practical topic**
1st	01/07/24	1	1.1 Common steel structures, Advantages & disadvantages of steel structures.
	03/07/24	1	1.2 Types of steel, properties of structural steel
	04/07/24	1	1.3 Rolled steel sections, special considerations in steel design.
	05/07/24	1	1.4 Loads and load combinations
2nd	08/07/24	1	1.5 Structural analysis and design philosophy.
	10/07/24	1	1.6 Brief review of Principles of Limit State design.
	11/07/24	1	2.1 Bolted Connections 2.1.1 Classification of bolts, advantages and disadvantages of bolted connections.
	12/07/24	1	2.1.2 Different terminology, spacing and edge distance of bolt holes.

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3rd	15/07/24	1	2.1.3 Types of bolted connections
	18/07/24	1	2.1.4 Types of action of fasteners, assumptions and principles of design.
	19/07/24	1	2.1.5 Strength of plates in a joint, strength of bearing type bolts (shear capacity& bearing capacity), reduction factors.
4th	22/07/24	1	2.1.6 Analysis & design of Joints using bearing type bolt.
	24/07/24	1	2.1.6 Analysis & design of Joints using bearing type bolt.
	25/07/24	1	2.1.6 Analysis & design of Joints using bearing type bolt.
	26/07/24	1	Numerical solution from the topic
5th	29/07/24	1	2.1.6 Analysis & design of Joints using HSFG bolts
	31/07/24	1	2.1.6 Analysis & design of Joints using HSFG bolts
	01/08/24	1	Numerical solution from the topic
	02/08/24	1	2.1.7 Efficiency of a joint.
6th	05/08/24	1	2.2 Welded Connections: 2.2.1 Advantages and Disadvantages of welded connection
	07/08/24	1	2.2.2 Types of welded joints and specifications for welding

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	08/08/24	1	2.2.3 Design stresses in welds.
	09/08/24		2.2.4 Strength of welded joints.
7th	12/08/24	1	Discuss previous year questions
	14/08/24	1	3.1 Common shapes of tension members.
	16/08/24	1	3.2 Maximum values of effective slenderness ratio.
8th	21/08/24	1	Numerical solution from the topic
	22/08/24	1	3.4 Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)
	23/08/24	1	3.4 Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)
9th	27/08/24	1	Numerical solution from the topic
	28/08/24	1	4.1 Common shapes of compression members.
	29/08/24	1	4.2 Buckling class of cross sections, slenderness ratio

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10th	02/09/24	1	4.3 Design compressive stress and strength of compression members.
	04/09/24	1	4.4 Analysis and Design of compression members (axial load only).
	05/09/24	1	4.4 Analysis and Design of compression members (axial load only). Discuss previous year questions
	06/09/24	1	Problem solving from previous year questions
11th	09/09/24	1	Design of Steel beams: 5.1 Common cross sections and their classification. 5.2 Deflection limits, web buckling and web crippling.
	11/09/24	1	Design of Steel beams: 5.1 Common cross sections and their classification. 5.2 Deflection limits, web buckling and web crippling.
	12/09/24	1	***INTERNAL ASSESSMENT***
	13/09/24	1	***INTERNAL ASSESSMENT***
12th	18/09/24	1	5.3 Design of laterally supported beams against bending and shear.
	19/09/24	1	5.3 Design of laterally supported beams against bending and shear.
	20/09/24	1	***CLASS TEST 1***
	23/09/24	1	Discuss previous year questions
	25/09/24	1	6.1 Round Tubular Sections, Permissible Stresses

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13th	26/09/24	1	6.2 Tubular Compression & Tension Members
	27/09/24	1	6.3 Joints in Tubular trusses
14th	30/09/24	1	6.3 Joints in Tubular trusses
	03/10/24	1	***CLASS TEST 2***
	04/10/24	1	7.1 Design considerations for Masonry walls & Columns,
15th	14/10/24	1	7.1 Load Bearing & Non Load Bearing walls, Permissible stresses,
	17/10/24	1	7.1 Load Bearing & Non Load Bearing walls, Permissible stresses,
	18/10/24	1	.1 Load Bearing & Non Load Bearing walls, Permissible stresses,
16th	21/10/24	1	previous year questions
	23/10/24	1	Numerical solution from the topic
	24/10/24	1	Numerical solution from the topic
	25/10/24	1	7.1 Slenderness Ratio, Effective Length, Height & Thickness.
17th	28/10/24	1	7.1 Slenderness Ratio, Effective Length, Height & Thickness.
	30/10/24	1	Discuss previous year questions
	01/11/24	1	Discuss previous year questions

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18th	04/11/24	1	Revision
	06/11/24	1	Revision
	07/11/24	1	Revision
	08/11/24	1	Revision