

**BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF CIVIL ENGINEERING**



LESSON PLAN

SUBJECT: STRUCTURAL DESIGN - II (TH 5)

FACULTY: SRI KANIT PALAKIA

ACCADEMIC SESSION: 2022-23

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: Shri Kanit Palakia
Subject: Structural Design II (TH2)	No of days per week class allotted: 04 periods/week (Tue, Wed, Thu and Sat-1 period each)		Semester : From date: 15-09-2022 to date : 22-12-2022 No of weeks: 14 weeks
Week	Class Day	No of period available	Theory/Practical topic
1 st	15-09-2022	1	1.1 Common steel structures, Advantages & disadvantages of steel structures.
	17-09-2022	1	1.2 Types of steel, properties of structural steel.
2 nd	20-09-2022	1	1.3 Rolled steel sections, special considerations in steel design. 1.4 Loads and load combinations.
	21-09-2022	1	1.5 Structural analysis and design philosophy.
	22-09-2022	1	1.6 Brief review of Principles of Limit State design.
	24-09-2022	1	2.1 Bolted Connections 2.1.1 Classification of bolts, advantages and disadvantages of bolted connections.
3 rd	27-09-2022	1	2.1.2 Different terminology, spacing and edge distance of bolt holes.
	28-09-2022	1	2.1.3 Types of bolted connections. 2.1.4 Types of action of fasteners, assumptions and principles of design.
	29-09-2022	1	2.1.4 Types of action of fasteners, assumptions and principles of design.
	01.10.2022	1	2.1.5 Strength of plates in a joint, strength of bearing type bolts (shear capacity& bearing capacity), reduction factors.
4 th	11.10.2022	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.
	12.10.2022	1	2.1.5 Strength of plates in a joint, strength of bearing type bolts (shear capacity& bearing capacity), reduction factors.
	13.10.2022	1	2.1.6 Analysis & design of Joints using bearing type bolt.
	15-10-2022	1	2.1.6 Analysis & design of Joints using bearing type bolt.
5 th	18-10-2022	1	2.1.6 Analysis & design of Joints using HSFG bolts
	19-10-2022	1	2.1.6 Analysis & design of Joints using HSFG bolts
	20-10-2022	1	Class Test

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	22-10-2022	1	2.2 Welded Connections: 2.2.1 Advantages and Disadvantages of welded connection
6 th	25-10-2022	1	2.2.2 Types of welded joints and specifications for welding
	26-10-2022	1	2.2.3 Design stresses in welds.
	27-10-2022	1	2.2.4 Strength of welded joints.
	29-10-2022	1	Discuss previous year questions
7 th	01-11-2022	1	3.1 Common shapes of tension members.
	02-11-2022	1	3.2 Maximum values of effective slenderness ratio.
	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	3.4 Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)
8 th	09-11-2022	1	3.4 Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)
	10-11-2022	1	3.4 Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)
	12-11-2022	1	Discuss previous year questions
9 th	15-11-2022	1	Internal assessment
	16-11-2022	1	Internal assessment
	17-11-2022	1	4.1 Common shapes of compression members. 4.2 Buckling class of cross sections, slenderness ratio
	19-11-2022	1	4.3 Design compressive stress and strength of compression members.
10 th	22-11-2022	1	4.4 Analysis and Design of compression members (axial load only).
	23-11-2022	1	4.4 Analysis and Design of compression members (axial load only).
	24-11-2022	1	4.4 Analysis and Design of compression members (axial load only).
	26-11-2022	1	Discuss previous year questions
11 th	29-11-2022	1	Design of Steel beams: 5.1 Common cross sections and their classification.
	30-11-2022	1	5.2 Deflection limits, web buckling and web crippling.
	01-12-2022	1	5.3 Design of laterally supported beams against bending and shear.
	03-12-2022	1	5.3 Design of laterally supported beams against bending and shear.

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12 th	06-12-2022	1	Discuss previous year questions
	07-12-2022	1	6.1 Round Tubular Sections, Permissible Stresses
	08-12-2022	1	6.2 Tubular Compression & Tension Members
	10-12-2022	1	6.3 Joints in Tubular trusses
13 th	13-12-2022	1	6.3 Joints in Tubular trusses
	14-12-2022	1	Class Test
	15-12-2022	1	7.1 Design considerations for Masonry walls & Columns,
	17-12-2022	1	7.1 Load Bearing & Non Load Bearing walls, Permissible stresses,
14 th	20-12-2022	1	7.1 Slenderness Ratio, Effective Length, Height & Thickness.
	21-12-2022	1	Discuss previous year questions
	22-12-2022	1	Revision