LESSON PLAN: (STRUCTURAL DESIGN II)		
Discipline :	**CIVIL ENGINEERING**	
Faculty :	**DILESWAR SAHOO**	
Semester :	**5TH**	
Duration :	**14 WEEKS (1ST AUGUST 2023 to 30TH NOVEMBER 2023)**	
Work Load :	**Lecture :**	**4 Lectures per week (50 minutes per Class)**
Week	**Week Day**	**Theory**
1st	1st	Common steel structures, Advantages & disadvantages of steel structures.
	2nd	Types of steel, properties of structural steel.
	3rd	Rolled steel sections, special considerations in steel design.
	4th	Loads and load combinations. Structural analysis and design philosophy.
2nd	5th	Brief review of Principles of Limit State design.
	6th	Bolted Connections. Classification of bolts, advantages and disadvantages of bolted connections.
	7th	Different terminology, spacing and edge distance of bolt holes. Types of bolted connections.
	8th	Types of action of fasteners, assumptions and principles of design.
3rd	9th	Strength of plates in a joint, strength of bearing type bolts (shear capacity& Bearing capacity), reduction factors, and shear capacity of HSFG bolts.
	10th	Analysis & design of Joints using bearing type and HSFG bolts (except eccentric load and prying forces)
	11th	Efficiency of a joint.
	12th	Welded Connections:
4th	13th	Advantages and Disadvantages of welded connection .Types of welded joints and specifications for welding
	14th	Design stresses in welds.
	15th	Strength of welded joints.
	16th	Design of Steel tension Members
5th	17th	Common shapes of tension members.
	18th	Maximum values of effective slenderness ratio.
	19th	Analysis and Design of tension members.
	20th	Example 1 Analysis and Design of tension members.
6th	21st	Example 2 and 3 Analysis and Design of tension members.
	22nd	Example 3 Analysis and Design of tension members.
	23rd	Example 5 Analysis and Design of tension members.
	24th	Design of Steel Compression members
7th	25th	Common shapes of compression members
	26th	Buckling class of cross sections, slenderness ratio
	27th	Design compressive stress and strength of compression members
	28th	Problems of Design compressive stress and strength of compression members
8th	29th	Analysis and Design of compression members (axial load only).
	30th	Example 1 of Analysis and Design of compression members (axial load only).
	31st	Example 2 of Analysis and Design of compression members (axial load only).

	32nd	Example 3 of Analysis and Design of compression members (axial load only).
9th	33rd	Example 4 of Analysis and Design of compression members (axial load only).
	34th	Design of Steel beams:
	35th	Common cross sections and their classification.
	36th	Deflection limits
10th	37th	web buckling and web crippling
	38th	Design of laterally supported beams against bending and shear
	39th	Problem of Design of laterally supported beams against bending and shear
	40th	Design of Tubular Steel Structures
11th	41st	Round Tubular Sections, Permissible Stresses
	42nd	Tubular Compression & Tension Members
	43rd	Joints in Tubular trusses
	44th	Problems of Design of Tubular Steel Structures
12th	45th	Problems of Tubular Compression & Tension Members
	46th	Design of Masonry Structures
	47th	Design considerations for Masonry walls & Columns
	48th	Load Bearing & Non-Load Bearing walls,
13th	49th	Permissible stresses
	50th	Slenderness Ratio
	51st	Effective Length, Height & Thickness.
	52nd	Problems on Design of Masonry Structures
14th	53rd	Example 1 of Load Bearing & Non-Load Bearing walls,
	54th	Example 2 of Load Bearing & Non-Load Bearing walls,
	55th	Example 3 of Load Bearing & Non-Load Bearing walls,
	56th	Example 4 of Load Bearing & Non-Load Bearing walls,