LESSON PLAN FOR WINTER 2021-22	
DEPARTMENT OF CIVIL ENGINEERING	
STRUCTURAL DESIGN II , 5TH SEMESTER (WINTER 2021)	
Lesson Plan	**Week/Month**
Chapter 1	**week 1**
Introduction ; Introduction to Common steel structures, Advantages & disadvantages of steel structures.	
Types of steel, properties of structural steel,Rolled steel sections,	
special considerations in steel design. Loads and load combinations.	
Structural analysis and design philosophy. Brief review of Principles of Limit State design.	
Chapter 2	
Structural steel fastners and connections ; Bolted Connections, Classification of bolts, advantages and disadvantages of bolted connections.	
Different terminology, spacing and edge distance of bolt holes, Types of bolted connections.	**week 2**
Types of action of fasteners, assumptions and principles of design.	
Strength of plates in a joint, strength of bearing type bolts (shear capacity& bearing capacity), reduction factors, numericals practice	
shear capacity of HSFG bolts, Analysis & design of Joints using bearing type bolts	**week 3**
Analysis & design of Joints using HSFG bolts , efficiency of joints	
Numericals practice	
Numericals practice	
Welded Connections:Definition, Advantages and Disadvantages of welded connection	**week 4**
Types of welded joints and specifications for welding, Design stresses in welds.	
Strength of welded joints.	**week 5**
Numericals practice	
Numericals practice	
Chapter 3	**week 6**
Design of Steel tension members; Common shapes of tension members Maximum values of effective slenderness ratio.	

Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)	
Numericals practice , Monthly test(october)	week 7
Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)	week 8
Numericals practice	week 9
Question and Answer discussion	
Chapter 4	week 10
Design of steel compression member; Common shapes of compression members, Buckling class of cross sections, slenderness ratio	
Design compressive stress and strength of compression members, Analysis and Design of compression members (axial load only).	
Design compressive stress and strength of compression members, Analysis and Design of compression members (axial load only).	week 11
Numericals practice , Monthly test(november)	
Numericals practice	week 12
Question and Answer discussion	
Chapter 5	week 13
Design of Steel beams, common cross sections and their classifications	
Deflection limits, web buckling and web crippling.	
Design of laterally supported beams against bending and shear.	week 14
Numericals	
Numericals	week 15
Question and Answer discussion	
Chapter 6	week 16
Design of Tubular Steel Structures; Round Tubular Sections, Permissible Stress	
Tubular compression member	
Tubular tension members	
Joints in tubular trusses	week 17
Numericals	
Question and Answer discussion and Monthly test (December)	
Chapter 7	week 18
Design considerations for masonry walls and coulumns	
Load bearing and non-load bearing wall	
Permissible stress , slenderness ratio	
Effective length , height and thickness , Numericals	week 19
Revision classes and mock test	week 20

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HOD Civil