ACADEMIC SESSION : 2022-23

Discipline : CIVIL ENGG	**Semester : 5TH**	**Name of the Teaching Faculty : DEBASIS LENKA**
Subject : SD-2	No. of days / week class allotted	Semester From date: 1ST : 15/09/2022 to 22/12/2022 Nos. of Weeks per semester : 14
Week	**Class Day**	**Theory/ Practical Topics**
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
2ND	1st	Structural analysis and design philosophy. Brief review of Principles of Limit State design.
	2nd	Classification of bolts, advantages and disadvantages of bolted connections.
	3rd	Different terminology, spacing and edge distance of bolt holes.
	4th	Types of bolted connections.
3RD	1st	Types of action of fasteners, assumptions and principles of design.
	2nd	Strength of plates in a joint, strength of bearing type bolts (shear capacity& bearing capacity), reduction factors, and shear capacity of HSFG bolts.
	3rd	Analysis & design of Joints using bearing type and HSFG bolts (except eccentric load and prying forces)
	4th	Efficiency of a joint.
4TH	1st	Welded Connections:
	2nd	Advantages and Disadvantages of welded connection
	3rd	Types of welded joints and specifications for welding Design stresses in welds. Strength of welded joints
	4th	Design of Steel tension Members
5TH	1st	Common shapes of tension members.
	2nd	Maximum values of effective slenderness ratio.
	3rd	Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)
	4th	Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)

6TH	1st	Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)
	2nd	Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)
	3rd	Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)
	4th	Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)
7TH	1st	Analysis and Design of tension members.(Considering strength only and concept of block shear failure.)
	2nd	Design of Steel Compression members
	3rd	Common shapes of compression members.
	4th	Common shapes of compression members.
8TH	1st	Buckling class of cross sections, slenderness ratio
	2nd	Buckling class of cross sections, slenderness ratio
	3rd	Design compressive stress and strength of compression members.
	4th	Design compressive stress and strength of compression members.
9TH	1st	Design compressive stress and strength of compression members.
	2nd	Analysis and Design of compression members (axial load only).
	3rd	Analysis and Design of compression members (axial load only).
	4th	Design of Steel beams:
10TH	1st	Common cross sections and their classification
	2nd	Common cross sections and their classification
	3rd	Deflection limits, web buckling and web crippling.
	4th	Deflection limits, web buckling and web crippling.
11TH	1st	Deflection limits, web buckling and web crippling.
	2nd	Design of laterally supported beams against bending and shear.
	3rd	Design of laterally supported beams against bending and shear.
	4th	Design of laterally supported beams against bending and shear.
12th	1st	Design of laterally supported beams against bending and shear.
	2nd	Design of Tubular Steel Structures:
	3rd	Round Tubular Sections, Permissible Stresses
	4th	Tubular Compression & Tension Members

13th	1st	Tubular Compression & Tension Members
	2nd	Joints in Tubular trusses
	3rd	Joints in Tubular trusses
	4th	Design of Masonry Structures:
14th	1st	Design considerations for Masonry walls & Columns
	2nd	Design considerations for Masonry walls & Columns
	3rd	Load Bearing & Non-Load Bearing walls
	4th	Load Bearing & Non-Load Bearing walls
15th	1st	Permissible stresses
	2nd	Slenderness Ratio, Effective Length
	3rd	Slenderness Ratio, Effective Length
	4th	Height & Thickness.