



RAAJDHANI ENGINEERING COLLEGE, BHUBANESWAR

LESSONPLAN

2023-24

Discipline: CIVIL ENGINEERING	Semester: 5th sem	Name of the Teaching Faculty: Dr. Dattatreya Tripathy
Subject: Structural Design-II (Th.2)	No. Of Days/ Week Class Allotted: 04	Session : Sep 2023-Jan 2024

Week	Class/Day	Theory/Topics	References
1 st	1st	Common steel structures.	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Advantages & disadvantages of steel structures.	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Types of steel, properties of structural steel.	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Rolled steel sections.	https://archive.nptel.ac.in/courses/105/105/105105162/
2 nd	1st	Special considerations in steel design.	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Loads and load combinations.	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Structural analysis and design philosophy	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Brief review of Principles of Limit State design.	https://archive.nptel.ac.in/courses/105/105/105105162/
3 rd	1st	Bolted Connections	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Classification of bolts.	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Advantages and disadvantages of bolted connections	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Different terminology, spacing and edge distance of bolt holes.	https://archive.nptel.ac.in/courses/105/105/105105162/
4 th	1st	Types of bolted connections.	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Problems on bolted connection	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Problems on bolted connection	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Types of fasteners	https://archive.nptel.ac.in/courses/105/105/105105162/

5th	1st	Assumptions and principles of design	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Strength of plates in a joint, strength of bearing type bolts (shear capacity & bearing capacity)	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Reduction factors, and shear capacity of HSFG bolts	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Analysis & design of Joints using bearing type and HSFG bolts (except eccentric load and prying forces)	https://archive.nptel.ac.in/courses/105/105/105105162/
6th	1st	Problems on HSFG bolt.	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Efficiency of a joint.	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Quiz Test	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Numerical Problems and solution	https://archive.nptel.ac.in/courses/105/105/105105162/
7th	1st	Numerical Problems and solution	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Welded Connections:	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Advantages and Disadvantages of welded connection	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Types of welded joints.	https://archive.nptel.ac.in/courses/105/105/105105162/
8th	1st	Design stresses in welds.	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Strength of welded joints	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Specifications for welding	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Numerical Problems and solutions	https://archive.nptel.ac.in/courses/105/105/105105162/
9th	1st	Numerical Problems and solutions	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Common shapes of tension members.	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Maximum values of effective slenderness ratio.	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Analysis and Design of tension members. (Considering strength only and concept of block shear failure.	https://archive.nptel.ac.in/courses/105/105/105105162/
10th	1st	Numerical Problems and solutions	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Numerical Problems and solutions	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Common shapes of compression members	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Built up sections	https://archive.nptel.ac.in/courses/105/105/105105162/
11th	1st	Buckling class of cross sections, slenderness ratio	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Design compressive stress and strength of	https://archive.nptel.ac.in/courses/105/105/105105162/

		compression members	05162/
	3rd	Analysis and Design of compression members (axial load only).	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Numerical Problems and solutions	https://archive.nptel.ac.in/courses/105/105/105105162/
12th	1st	Numerical Problems and solutions	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Common cross sections and their classification.	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Deflection limits, web buckling and web crippling.	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Design of laterally supported beams against bending and shear	https://archive.nptel.ac.in/courses/105/105/105105162/
13th	1st	Numerical Problems and solutions	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Quiz Test	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Round Tubular Sections, Permissible Stresses	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Tubular Compression & Tension Members	https://archive.nptel.ac.in/courses/105/105/105105162/
14th	1st	Joints in Tubular trusses	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Numerical Problems and solutions	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Numerical Problems and solutions	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	Design considerations for Masonry walls & Columns	https://archive.nptel.ac.in/courses/105/105/105105162/
15th	1st	Load Bearing & Non-Load Bearing walls	https://archive.nptel.ac.in/courses/105/105/105105162/
	2nd	Permissible stresses. Slenderness Ratio	https://archive.nptel.ac.in/courses/105/105/105105162/
	3rd	Effective Length, Height & thickness	https://archive.nptel.ac.in/courses/105/105/105105162/
	4th	revision	https://archive.nptel.ac.in/courses/105/105/105105162/