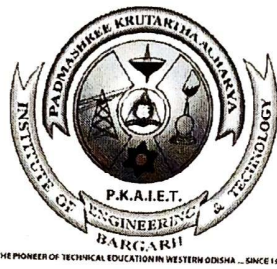


PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



PROGRESS REGISTER Session-2022-2023

Discipline: Civil Engg.

Semester: 5th

Subject: STRUCTURAL DESIGN-II

Name of the Teaching Faculty: ARUN KUMAR BHOI

Subject: STRUCTURAL DESIGN-1 No. of Days/per week class allotted 4

Semester From Date : 15-09-22 To Date : 20-01-23 No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
15/09/22	Types of steel structure	Types of steel structure	Framed structure Sheet structure	<u>ADShoi</u>
16/09/22	Properties of steel, Advantages Disadvantages	Properties of steel, Advantages Disadvantages	Modulus of elasticity, Physical Mechanical properties	<u>ADShoi</u>
19/09/22	Rolled steel sections, Loads	Rolled steel sections, Loads	I sections, channel, Tee Angel section Loads	<u>ADShoi</u>
20/09/22	Principles of Limit state design	Principles of Limit state design	Strength serviceability	<u>ADShoi</u>
22/09/22	Bolted connection classification	Bolted connection classification	Bolt head shank nominal diameter HSFG bolt	<u>ADShoi</u>
23/09/22	Different terms in bolted connection	Different terms in bolted connection	pitch, edge distance, gauge length	<u>ADShoi</u>
26/09/22	Assumption and principles of design	Assumption and principles of design	Load, Bending stress, Efficiency	<u>ADShoi</u>
27/09/22	Failures of bearing types of bolts	Failures of bearing types of bolts	Rupture, shearing	<u>ADShoi</u>
29/09/22	Strength of plate in a joint	Strength of plate in a joint	shearing bearing strength	<u>ADShoi</u>
30/09/22	Numerical practice	Numerical practice	problems discuss	<u>ADShoi</u>
10/10/22	welded connection	welded connection	Butt weld fillet weld	<u>ADShoi</u>

Subject: STRUCTURAL DESIGN - II No. of Days/per week class allotted 4

Semester From Date : 15-09-22 To Date : 22-01-23 No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
11/10/22	Advantages and disadvantages of welded connection	Advantages and disadvantages of welded connection	Efficiency, Fatigue, Rigid joint	<u>Abhari</u>
13/10/22	Design stress in welding	Design stress in welding	Stress, strength	<u>Abhari</u>
14/10/22	Strength of welded joints	Strength of welded joints	Strength of weld and strength of plate	<u>Abhari</u>
17/10/22	Numerical practice	Numerical practice	various problems discuss	<u>Abhari</u>
18/10/22	Common shapes of tension member	Common shapes of tension member	Angle section channel section I section	<u>Abhari</u>
20/10/22	Types of failure in tension member	Types of failure in tension member	Yielding, Rupture	<u>Abhari</u>
21/10/22	Strength of tension member shearlag	Strength of tension member shearlag	Shearing, Bearing, Yielding	<u>Abhari</u>
27/10/22	Maximum values of slenderness ratio	Maximum values of slenderness ratio	Effective length (KL) calculation	<u>Abhari</u>
28/10/22	Design of tension member subjected to axial load	Design of tension member subjected to axial load	Design steps	<u>Abhari</u>
31/10/22	Block shear failure	Block shear failure	Avg, A _v , A _t , A _n calculation	<u>Abhari</u>
1/11/22	Strength of angle section in rupture	Strength of angle section in rupture	single angle double angle section	<u>Abhari</u>

Subject: STRUCTURAL DESIGN - II No. of Days/per week class allotted 4

Semester From Date : 15-09-22 To Date : 20-01-23 No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
3/11/22	Numerical practice	Numerical practice	problems solved	<u>ABShri</u>
4/11/22	Analysis of design of single angle and double angle	Analysis of design of single angle and double angle	Rupture, Block shear strength	<u>ABShri</u>
7/11/22	Tension members and bolted, welded with gusset plate	Tension members and bolted, welded with gusset plate	Strength calculation	<u>ABShri</u>
10/11/22	Common shapes of compression member	Common shapes of compression member	Angle, channel, Tee, I section	<u>ABShri</u>
11/11/22	Buckling of columns, Slenderness ratio	Buckling of columns, Slenderness ratio	Boundary conditions	<u>ABShri</u>
14/11/22	compressive stress and strength of compression member	compressive stress and strength of compression member	Flexural buckling	<u>ABShri</u>
15/11/22	compressive stress for columns	compressive stress for columns	Buckling class	<u>ABShri</u>
17/11/22	compressive stress for angle struts	compressive stress for angle struts	single angle strut	<u>ABShri</u>
18/11/22	Analysis and design of compression member	Design of compression member	steps for design	<u>ABShri</u>
21/11/22	Numerical practice	Numerical practice	problems solved	<u>ABShri</u>
22/11/22	Assignments	Assignments	problems discussed	<u>ABShri</u>

Subject: STRUCTURAL DESIGN-II No. of Days/per week class allotted 4

Semester From Date : 15-09-22 To Date : 20-01-23 No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
24/11/22	continuous members in compression	continuous members in compression	Welded trusses Braced frames	<u>A. Dhari</u>
25/11/22	Limitations to choice a steel section for connection	Limitations to choice a steel section for connection	Area taken from steel table	<u>A. Dhari</u>
28/11/22	Common cross-section of steel beams	Common cross-section of steel beams	Angle, Box, Tubular, Tee, channel	<u>A. Dhari</u>
29/11/22	Basic concept of plastic theory	Basic concept of plastic theory	shape factor, plastic section modulus	<u>A. Dhari</u>
1/12/22	Design Limits	Design Limits	Design moment and shear	<u>A. Dhari</u>
2/12/22	web crippling and web buckling	web crippling and web buckling	crippling strength buckling strength	<u>A. Dhari</u>
5/12/22	Design of Laterally supported beams	Design of Laterally supported beams	Trial section and section classification	<u>A. Dhari</u>
6/12/22	Built up beams	Built up beams	I-sections, plate girders	<u>A. Dhari</u>
8/12/22	Numerical practice	Numerical practice	problems discussed	<u>A. Dhari</u>
12/12/22	Assignments	Assignments	problems solved	<u>A. Dhari</u>
13/12/22	Analysis and design of single angle section	Analysis and design of single angle section	Equal and unequal angle section	<u>A. Dhari</u>

Subject: STRUCTURAL DESIGN-II No. of Days/per week class allotted 4

Semester From Date : 15-09-22 To Date : 20-01-23 No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
15/12/22	Doubt clearing class	Doubt clearing class	Various points discuss briefly	<u>ADShoi</u>
19/12/22	Steel structure like trusses, columns and girders	steel structure like trusses, columns and girders	Trusses, columns	<u>ADShoi</u>
20/12/22	Rounded tubular sections	Rounded tubular sections	Tubular section, hollow section	<u>ADShoi</u>
22/12/22	permissible stresses	permissible stresses	Stresses required	<u>ADShoi</u>
23/12/22	Tubular compression member	Tubular compression member	Various tubular sections	<u>ADShoi</u>
26/12/22	Tubular tension member	Tubular tension member	Cables in suspended roof systems	<u>ADShoi</u>
27/12/22	Joints in tubular trusses	Joints in tubular trusses	Types of tubular joints	<u>ADShoi</u>
29/12/22	Numerical practice	Numerical practice	problems discussed	<u>ADShoi</u>
30/12/22	Design considerations for masonry walls	Design considerations for masonry walls	steel frame, Hybrid masonry	<u>ADShoi</u>
02/01/23	permissible stresses	permissible stresses	Tension, stress of steel for grades	<u>ADShoi</u>
03/01/23	Slenderness ratio	slenderness ratio	Effective length, radius of gyration	<u>ADShoi</u>

Subject: STRUCTURAL DESIGN-II No. of Days/per week class allotted 4

semester From Date: 15-09-22 To Date: 20-01-23 No. of Weeks: 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
05/01/23	Numerical practice	Numerical practice	problems discussed	<u>ABhor</u>
09/01/23	Effective length height and thickness	Effective length height and thickness	Length calculation	<u>ABhor</u>
10/01/23	Slab base, gusseted base	Slab base, gusseted base	Small load Heavy Load	<u>ABhor</u>
12/01/23	Design procedure for slab base subjected to axial loading	Design procedure for slab base subjected to axial loading	size of slab base, Thickness of base plate	<u>ABhor</u>
17/01/23	Numerical practice	Numerical practice	problems discussed	<u>ABhor</u>
19/01/23	Revision doubt clearing class	Revision doubt clearing class	various points discuss briefly	<u>ABhor</u>
20/01/23	Revision, doubt clearing class	Revision doubt clearing class	various points discuss briefly	<u>ABhor</u>