



LESSON PLAN OF CEPC213 PR:2 Mechanics of Materials Lab. FOR THE SESSION 2026-27(WINTER-2026) BATCH-2025-28, GOVT. POLYTECHNIC,KANDHAMAL

Discipline: civil engineering	Semester: 3rd	Name of the Teaching Faculty: Swastik Pradhan, Lect.-II in Civil Engg. Subrat Kumar Behera, LAB Asst. in Civil Engg.
Subject: CEPC213 PR:2 Mechanics of Materials Lab.	No. of days/ per week class allotted: 4	Semester From Date : 1/07/2026 to Date: 5/11/2026 No. of Weeks: 15
Week	Class Day	Theory/ Practical Topics
1st	1st	Course Introduction-Laboratory rules, safety precautions, assessment pattern
	2nd	Universal Testing Machine (UTM)-Introduction, components and working principle
	3rd	Universal Testing Machine -Calibration, controls and specimen preparation
	4th	Demonstration of UTM-Demonstration of tensile testing procedure
2nd	1st	Tension Test on Mild Steel- Theory, IS:432(Part 1) provisions
	2nd	Tension Test on Mild Steel- Practical test on mild steel specimen
	3rd	Tension Test on Mild Steel-Stress-strain curve, calculations
	4th	Bend and Re-bend Test (Mild Steel) -Theory and IS provisions
3rd	1st	Bend and Re-bend Test-Practical experiment
	2nd	Viva and Record Writing-Observation and result discussion
	3rd	Tor Steel Testing- Introduction to Tor steel properties
	4th	Tension Test on Tor Steel- IS:1608 & IS:1139 theory
4th	1st	Tension Test on Tor Steel-Practical experiment
	2nd	Tension Test on Tor Steel- Calculations and stress-strain curve
	3rd	Bend-Rebend Test on Tor Steel -Demonstration
	4th	Bend-Rebend Test on Tor Steel- Practical experiment
5th	1st	Result Analysis- Interpretation and report writing
	2nd	Viva -Review of steel testing experiments
	3rd	Compression Testing Machine (CTM)-Introduction and working principle
	4th	Compression Test on Concrete Cube-Theory, IS standards
6th	1st	Compression Test- Specimen preparation and testing
	2nd	Compression Test- Calculations and interpretation
	3rd	Concrete Cube Testing-Practical and report preparation
	4th	Viva- Compression testing discussion
7th	1st	Impact Testing-Introduction to impact strength
	2nd	Izod Impact Test- Theory, IS:1598
	3rd	Izod Test on Mild Steel-Practical
	4th	Izod Test on Brass-Practical
8th	1st	Izod Test on Aluminium/Copper/Cast Iron -Practical
	2nd	Izod Test- Calculations and comparison
	3rd	Charpy Impact Test- Theory, IS:1757
	4th	Charpy Test on Mild Steel- Practical
9th	1st	Charpy Test on Brass- Practical
	2nd	Charpy Test on Aluminium/Copper/Cast Iron- Practical
	3rd	Charpy Test- Calculations and comparison
	4th	Viva-Impact testing discussion
10th	1st	Brick Testing -Introduction to properties of bricks
	2nd	Water Absorption Test- Theory, IS:3495 (Part II)

	3rd	Water Absorption Test- Practical
	4th	Water Absorption Test-Calculations and report
11th	1st	Compressive Strength of Bricks- Theory, IS:3495 (Part I)
	2nd	Dry Brick Compression Test -Practical
	3rd	Wet Brick Compression Test -Practical
	4th	Calculations-Comparison of dry and wet strength
12th	1st	Viva- Brick testing
	2nd	Flexural Strength of Concrete -Theory
	3rd	Flexural Test on Concrete Beam-Demonstration
	4th	Flexural Test on Concrete Beam-Practical
13th	1st	Calculations-Modulus of rupture and report
	2nd	Viva- Concrete flexural strength
	3rd	Floor Tiles Testing-Introduction
	4th	Abrasion Test of Floor Tiles-Theory and practical
14th	1st	Abrasion Test- Calculations and report
	2nd	Flexural Test of Floor Tiles- Theory
	3rd	Flexural Test of Floor Tiles-Practical
	4th	Flexural Test of Roof Tiles -Practical
15th	1st	Result Analysis- Comparison with IS specifications
	2nd	Laboratory Record Completion- Verification of observations
	3rd	Viva -preparation and repeat demonstrationsViva preparation and repeat demonstrations
	4th	Final practical test, viva voce and record evaluation-Final practical test, viva voce and record evaluation

Swastika Pandey
25/06/2024

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