

LESSON PLAN OF CEPC211 PR:1 Transportation Engineering 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(Lecture) in Civil Engg., Sweet Revelen Pradhan, GF in Civil Engg., Subrat Kumar Behera, LAB Asst. in Civil Engg.
Subject: CEPC211 PR:1 Transportation Engineering 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	Introduction to Highway Materials Laboratory- Course objectives, lab safety, equipment overview
	2nd	Aggregate Properties -Theory of physical and mechanical properties
	3rd	Flakiness & Elongation Index -Theory, apparatus, IS specifications
	4th	Flakiness Index Test -Demonstration
2nd	1st	Flakiness Index Practical -Student experiment
	2nd	Elongation Index Test -Practical, calculations, record
	3rd	Crushing Strength of Aggregates -Theory and importance
	4th	Aggregate Crushing Value Test -Demonstration
3rd	1st	Crushing Value Practical -Students perform experiment
	2nd	Crushing Value Calculations - Observation and viva
	3rd	Aggregate Impact Value -Theory
	4th	Impact Test Demonstration -Procedure
4th	1st	Impact Value Practical - Student experiment
	2nd	Calculations & Discussion -Result interpretation
	3rd	Abrasion Value - Theory of wear and durability
	4th	Los Angeles Abrasion Test - Demonstration
5th	1st	Abrasion Test Practical -Student experiment
	2nd	Calculations & Report - Discussion
	3rd	Angularity Number - Theory
	4th	Angularity Test Demonstration - Apparatus and procedure
6th	1st	Angularity Test Practical - Students perform test
	2nd	Result Analysis -Interpretation and viva
	3rd	Bitumen Properties -Introduction and applications
	4th	Softening Point Test -Theory
7th	1st	Softening Point Practical -Ring and Ball apparatus
	2nd	Calculations -Discussion
	3rd	Penetration Test -Theory
	4th	Penetration Test Practical -Demonstration and experiment
8th	1st	Calculations -Interpretation
	2nd	Flash & Fire Point -Theory
	3rd	Flash & Fire Point Practical - Experiment
	4th	Discussion -Safety precautions
9th	1st	Ductility Test -Theory
	2nd	Ductility Test Practical -Demonstration
	3rd	Ductility Test Experiment -Students perform
	4th	Calculations & Viva -Discussion
10th	1st	Viscosity of Bitumen -Theory
	2nd	Viscosity Test -Demonstration
	3rd	Viscosity Practical -Students perform

11th	1st	Bitumen Content -Theory of centrifuge extractor
	2nd	Centrifuge Extractor -Demonstration
	3rd	Bitumen Content Practical -Experiment
	4th	Calculations - Report writing
12th	1st	Marshall Stability Test -Theory
	2nd	Marshall Apparatus - Demonstration
	3rd	Specimen Preparation -Practical
	4th	Stability & Flow Test - Practical
13th	1st	Calculations - Result interpretation
	2nd	Marshall Test Viva -Discussion
	3rd	CBR Test -Theory and significance
	4th	CBR Apparatus -Demonstration
14th	1st	CBR Practical - Sample preparation
	2nd	CBR Testing -Calculations and report
	3rd	Field Visit I -Visual inspection of constructed road
	4th	Field Visit I Report -Identification of pavement defects
15th	1st	Remedial Measures - Discussion and case studies
	2nd	Field Visit II -Drainage condition of flexible/rigid pavement
	3rd	Field Report Presentation -Student seminar and discussion
	4th	Revision & Practical Examination -Viva, record submission, assessment

Sweet Revelen Pradhan
Signature of Faculty


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