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: ~~PRITHIRANJAN PRIYADARSHI PATRO,Sr.~~ Swastik Pradhan (Lect-in) **Lect. in Cvil Engg.Subrat Kumar Behera, LAB Asst. in Civil Engg.** Swastik Pradhan, Lect. 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-Saf** ety 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
	4th	**Analysis-** Result interpretation
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

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