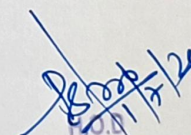




LESSON PLAN OF CEPC211 PR:1 Transportation Engineering Lab FOR THE SESSION 2026-27(WINTER-2026)
BATCH-2025-28, GOVT. POLYTECHNIC,KANDHAMAL

Discipline: civil engineering	Semester: 3rd	Name of the Teaching Faculty: <u>Sudastik Pradhan (Lab In-charge)</u> <u>PRITHIRANJAN PRIYADARSHI PATRO, ST. Lect. in Civil Engg.</u> <u>Subrat Kumar Behera, LAB Asst. in Civil Engg.</u> <u>Sudastik Pradhan, Lab In-charge</u>
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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