



SYNERGY SCHOOL OF ENGINEERING, DHENKANAL
LAB LESSON PLAN & PROGRESS
SESSION 2026-2027 (WINTER)
DEPARTMENT OF CIVIL ENGINEERING

Discipline: Civil Engineering	Semester: 3rd/Winter 2026	Name of the Faculty: Kiranbala Behera Email: kiranabalabehera5@gmail.com
Subject: Building Materials & Concrete Technology Lab	No. of Days/week class: 04	Start Date: 01/07/2026 End Date: 05/11/2026

No. of Week	No. of Lab Classes	Topics to be Taught	Date of Delivery	
			G1	G2
1st	1st	Identify various sizes of available coarse aggregates from sample of 10 kg in laboratory and prepare report (60,40, 20,10 mm)		
	2nd	Identify various sizes of available coarse aggregates from sample of 10 kg in laboratory and prepare report (60,40, 20,10 mm)		
2nd	1st	Determine Fineness modulus of fine aggregate by sieve analysis		
	2nd	Determine Fineness modulus of fine aggregate by sieve analysis		
3rd	1st	Select first class, second class and third-class bricks from the stake of bricks and prepare report based on its properties.		
	2nd	Select first class, second class and third-class bricks from the stake of bricks and prepare report based on its properties.		
4th	1st	Select first class, second class and third-class bricks from the stake of bricks and prepare report based on its properties.		
	2nd	Select first class, second class and third-class bricks from the stake of bricks and prepare report based on its properties.		
5th	1st	Prepare the cement mortar of proportion 1:3 or 1:6 using cement and sand only.		
	2nd	Prepare the cement mortar of proportion 1:3 or 1:6 using cement and sand only.		
6th	1st	Determine fineness of cement by Blaine's air permeability apparatus or by sieving.		
	2nd	Determine fineness of cement by Blaine's air permeability apparatus or by sieving.		
7th	1st	Determine specific gravity, standard consistency, initial and final setting times of cement		
	2nd	Determine specific gravity, standard consistency, initial and final setting times of cement		
8th	1st	Determine compressive strength of cement.		
	2nd	Determine compressive strength of cement.		
9th	1st	Determine bulking of sand.		
	2nd	Determine bulking of sand.		
10th	1st	To prepare concrete mix of a particular grade as per IS 10262:2019 and determine compressive strength of Concrete for 7 and 28 days.		

KB Behera
11/11/26



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	2nd	To prepare concrete mix of a particular grade as per IS 10262:2019 and determine compressive strength of Concrete for 7 and 28 days.		
11th	1st	Determine water absorption of fine and coarse aggregates.		
	2nd	Determine water absorption of fine and coarse aggregates.		
12th	1st	Determine workability of concrete by slump cone test.		
	2nd	Determine workability of concrete by slump cone test.		
13th	1st	Determine workability of concrete by compaction factor test.		
	2nd	Determine workability of concrete by compaction factor test.		
14th	1st	Determine bulk density of fine and coarse aggregates.		
	2nd	Determine bulk density of fine and coarse aggregates.		
15th	1st	Demonstration of NDT equipment		
	2nd	Demonstration of NDT equipment		

PREPARED BY

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4/6/26

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16/06/26
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VERIFY BY HOD