



RAMCO INSTITUTE OF TECHNOLOGY

Approved by AICTE, New Delhi & Affiliated to Anna University
Accredited by NAAC & An ISO 9001:2015 Certified Institution
NBA Accredited UG Programs: CSE, EEE, ECE and MECH

Department of Civil Engineering

Academic Year 2021 – 2022 (Odd Semester)

Degree, Semester & Branch: IV Semester B.E. Civil Engineering

Course Code & Title: CE8491 – Soil Mechanics

Name of the Faculty member (s): Mrs.D.Darling Helen Lydia

Innovative Practice Description

- **Unit / Topic:** Unit IV / Shear Strength
- **Course Outcome:** CO4
- **Topic Learning Outcome:** TLO19
- **Activity Chosen:** Laboratory Visit
- **Justification:**

Shear strength of a soil is indicative of its resistance to erosion. Specifically, it is defined as **the resistance to deformation by the action of tangential (shear) stress**. Soil shear strength is made up of cohesion between particles and resistance of particles sliding over each other due to friction or interlocking. Since it's a very important topic, students were taken to soil mechanics laboratory for deep understanding.

Time Allotted for the Activity: 40 Minutes

• Details of the Implementation:

The students were taken to soil laboratory and demo was shown for Direct sheat test, Triaxial test, unconfined compressive test and vane shear test.

CO – PO / PSO mapping:

CO	PO1	PO2	PO3	PO4	PO12
CO2	3	3	1	1	1

(1 – Low 2 – Moderate 3 – High)

• PO / PSO mapped:

Innovative practice	PO1	PO2	PO3	PO4	PO12
	3	3	1	1	1
Justification for correlation	Apply the knowledge of engineering fundamentals, to the solution of Shear strength of cohesive and cohesion less soils	Identify, formulate, Mohr-Coulomb failure problems reaching substantiated conclusions	Design solutions for Mohr-Coulomb failure to find shear strength parameters.	Use research-based knowledge and research methods including design of experiments used for shear strength, analysis	Recognize the need for shear strength of soil, and have the preparation and ability to engage in independent and life-long learning



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- Images / Screenshot of the practice:



Reflective Critique:

- ❖ *Feedback of practice from students and other stakeholders:*

Oral feedback was received from students and most of them conveyed that they understood the tests very well and they got the confident to do the test.

- ❖ *Benefit of the practice:*

This practice certainly would develop strong basic knowledge. Through this some of the students answered the questions related to this topic in a good way.

References:

- ❖ <https://theconstructor.org/geotechnical/shearing-strength-of-soils-tests/2518/>

Signature of Faculty Member

HOD/Incharge