



Military College of Engineering (MCE)

- + Geotechnical Lab
- + Concrete Lab
- + Transportation Lab
- + Strength of Materials Lab

Introduction. The journey that started in 1948 from Sialkot spans over 69 years of rich history and success. The College is committed to the pursuit of knowledge and professionalism. MCE has the honor of producing 3,780 engineering graduates including around 60 international students. Later, 253 students completed their Masters and over 50 did their PhD's from renowned universities of the country and abroad. MCE is one of the premium institutions of the country providing an excellent environment of learning for the students with focus on innovation, sustainability and diversity in the field of Civil Engineering, Combat Engineering, Explosives Ordnance Disposal and Military Engineering Services. Aim is to develop MCE into a centre of excellence for advanced scientific and technological education and research.

Geotechnical Lab.

Geotechnical is a well-furnished lab with all sorts of geotechnical testing equipment for surface and subsurface exploration. The tests being carried out include Soil Investigation & Lab Testing e.g., Bearing Capacity, Density, Core Extraction & Evaluation, Designing of Retaining Walls & Flood Protection Bunds / Embankment and Stability Analysis for Slopes & Landslides & Remedial Design Measures. The lab is equipped with following key facilities:

a. Tri-axial

PURPOSE OF MACHINE

The tri-axial test allows the shear strength and stiffness of soil and rock to be determined for use in geotechnical design.

TEST RATE

Rs 4000/- sample



b. Consolidation Apparatus

PURPOSE OF MACHINE

The main purpose of consolidation tests is to obtain soil data which is used in predicting the rate and amount of settlement of structures founded on clay.

TEST RATE

Rs 12,000/- sample

c. CBR Apparatus

PURPOSE OF MACHINE

The CBR Apparatus is used for California Bearing Ratio (CBR) in labs (or in-situ) testing method to estimate the bearing value and the mechanical strength of soil.

TEST RATE

Rs 10,000/- sample



d. Electric Oven

PURPOSE OF MACHINE

These ovens generally provide uniform temperatures throughout. Process applications for lab ovens can be for annealing, die-bond curing, drying, and other industrial labor functions. It is also used to determine the moisture content of the soil.

TEST RATE

Rates included in other tests.



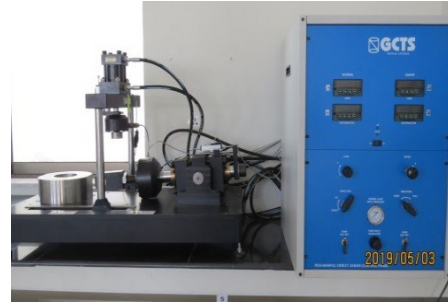
e. Direct Shear Panel

PURPOSE OF MACHINE

A direct shear test is a lab or field test used by geotechnical engineers to measure the shear strength properties of soil or rock material, or of discontinuities in soil or rock masses.

TEST RATE

Rs 3000/- sample



FOCAL PERSON

Lecturer Samreen Musaddiq

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Concrete Lab.

Concrete lab helps in determining properties of construction materials, their physical and mechanical properties, testing of materials for quality control and quality assurance etc. The lab is equipped with following key facilities:

a. Los Angeles Machine

PURPOSE OF MACHINE

Los Angeles abrasion is used to measure aggregate toughness and abrasion resistance such as crushing, degradation and disintegration. Wear and tear of aggregate is correlated with these properties of aggregate.

TEST RATE

Rs 3000/- sample



b. Electric Oven

PURPOSE OF MACHINE

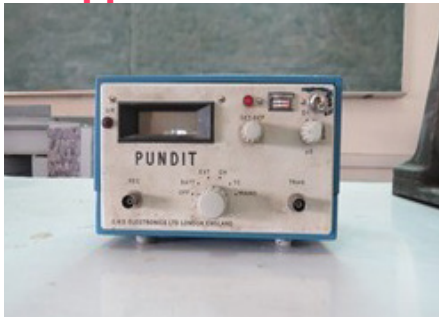
It is used to dry the samples (sand, aggregate) used in any test. Temperature controls of oven available in our lab is up to 120 degree centigrade.

TEST RATE

Rates included in other tests.



c. Pundit Apparatus



PURPOSE OF MACHINE

It is a non-destructive test used to measure the quality of hard concrete. It gives a velocity value which is correlated with strength and quality of concrete.

TEST RATE

Rs 4500/- sample

d. Slump Cone



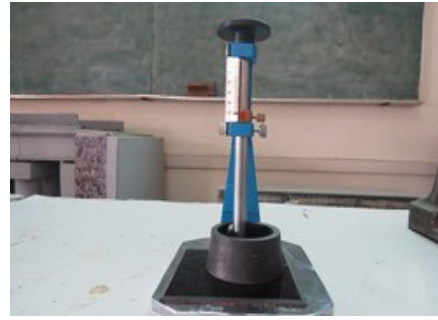
PURPOSE OF MACHINE

It is cone used to measure the workability of concrete. Slump is checked for fresh concrete during mixing which shows the workability of concrete. Workability means how easily one can mix, transport, compact and handle concrete on site.

TEST RATE

Rs 800/- sample

e. V-Cat Niddle Apparatus



PURPOSE OF MACHINE

Vicat apparatus is used to find the consistency of cement. It is also used to find initial and final setting time of cement.

TEST RATE

Rs 1500/- sample

f. Schmidt - CT



PURPOSE OF MACHINE

Used to find the compressive strength of existing / built-in structures.

TEST RATE

Rs 2500/- sample

FOCAL PERSON

Mr. Muhammad Nadeem Iqbal

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Transportation Lab.

Transportation is a state of the art Lab, primarily deals in material testing of Asphalt Pavements. The lab is engaged in R&D projects related to roads as well as quality testing of construction industry. Transportation Lab is capable of Traffic Survey & Transportation Planning Studies, Pavement Structural and Geometric Design and Evaluation of Motorways, Highways Rural and Urban Roads, Pavement Management System, Runway/Design/Rehabilitation, Evaluation & Remedial Measures, Pavement Material Testing, Rapid Mass Transit System and Intelligent Transportation System. The lab is equipped with following key facilities:

a. Extraction Machine

PURPOSE OF MACHINE

This apparatus is used to determine the bitumen %age in bitumen mix. Paving Mixture is tested to determine conformity with bitumen content requirement.

TEST RATE

Rs 4000/- sample



b. Ductility Machine

PURPOSE OF MACHINE

This apparatus is used to determine the bitumen %age in bitumen mix. Paving Mixture is tested to determine conformity with bitumen content requirement.

TEST RATE

Rs 2500/- sample



c. Flash & Fire Point Test Apparatus

PURPOSE OF MACHINE

This apparatus is used is designed to determine the temp to which an asphaltic material can be heated safely without the hazard of its catching fire.

TEST RATE

Rs 2000/- sample



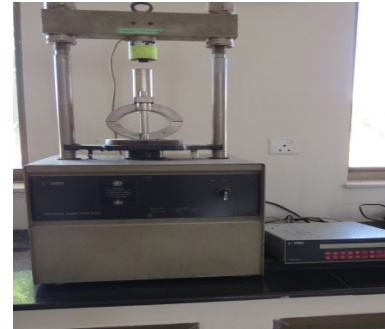
d. Marshal Stability Apparatus

PURPOSE OF MACHINE

The Marshall Stability apparatus is used is carried out for design and testing of bituminous mix. In this test to obtained optimum asphalt content for the type of agg. Mix.

TEST RATE

Rs 10,000/- sample



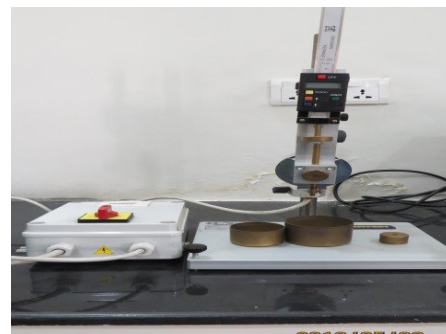
e. Penetrometer

PURPOSE OF MACHINE

This apparatus is used to identify an asphalt material and ensure that proper grade of binder is used for specific job.

TEST RATE

Rs 2000/- sample



f. Softening Point Test Apparatus

PURPOSE OF MACHINE

This apparatus is used to identify an asphalt material and ensure that proper grade of binder is used for specific job.

TEST RATE

Rs 2000/- sample



FOCAL PERSON

Engr Tabraiz Tehami Khan

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Strength of Materials Lab.

SOM Lab helps in determining construction material properties. The lab is equipped with UTM used for compression, flexure and tensile testing and plays a vital role in developing concepts of students related to structures. The lab is equipped with following key facilities:

a. Universal Testing Machine

PURPOSE OF MACHINE

To carry out tensile test on machined specimen of a metal to determine yield stress, tensile strength, elongation, reduction in area and limit of proportionality to ascertain the quality of the metal.

TEST RATE

Rs 2400/- sample



b. Torsion Testing Machine

PURPOSE OF MACHINE

To carry out torsion test in order to determine Modulus of rigidity, Shear stress at limit of proportionality, The general characteristics of torque and angle of twist of metals.

TEST RATE

For student use.



c. Data Logger

PURPOSE OF MACHINE

It is used to measure the strain in different projects of the students.

TEST RATE

For student use.



d. Thin Cylinder

PURPOSE OF MACHINE

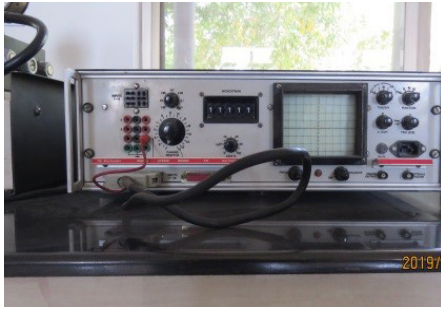
To determine young's Modulus and Poisson Ration of a Material and study the behavior of thin cylinder under internal pressure.

TEST RATE

For student use.



e. Straight Bridge Machine



PURPOSE OF MACHINE

For strain measurement. Used in conjunction with thick and thin cylinder.

TEST RATE

For student use.

FOCAL PERSON

Lab Demonstrator Akbar Ali

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FOCAL PERSON FOR ALL LABS

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