(BCE23311P) SOLID MECHANICS LABORATORY

List of Experiments

1. Tension Tests on Steel Specimen.
2. Bending Tests on Steel bars.
3. Shear Test on Steel Specimen
4. Torsion Tests.
5. Izod/Charpy Impact Test.
6. Rockwell/ Brinell Hardness Test.

SOLID MECHANICS LABORATORY

List of equipment

1. Universal Testing Machine (UTM).
2. Torsion Testing Machine.
3. Izod/Charpy impact testing machine.
4. Rockwell/ Brinell Hardness testing machine.

(BCE23315P) FLUID MECHANICS LABORATORY

List of Experiments

1. Verification of Bernoulli's Theorem.
2. Determination of metacentric height of a floating body.
3. Determination of Coefficient of discharge for an Orifice meter.
4. Determination of Coefficient of discharge for a Mouthpiece.
5. Determination of discharge of Rectangular Notch.
6. Determination of discharge of Triangular Notch.
7. Determination of water surface profile for a free vortex flow.
8. Determination of water surface profile for a forced vortex flow.

FLUID MECHANICS LABORATORY

List of equipment

1. Bernoulli's theorem apparatus
2. Metacentric Height apparatus
3. Orifice and Mouth piece apparatus
4. Rectangular/triangular notches apparatus
5. Free Vortex apparatus
6. Forced Vortex apparatus

(BCE23312P) CIVIL ENGINEERING, MATERIALS, TESTING & EVALUATION LABORATORY

List of Experiments

1. Specific gravity and water absorption of fine/coarse aggregate
2. Cube Compressive Strength Test
3. Compressive strength of cylindrical concrete specimen
4. Moisture content of timber
5. Compressive strength of timber
6. Penetration of bituminous material
7. Flexural strength of concrete beam

CIVIL ENGINEERING, MATERIALS, TESTING & EVALUATION LABORATORY

List of equipment

1. Pycnometer.
2. Test Moulds - Cube mould (150mm X 150 mm X 150 mm) and cylindrical mould (150mmX 300 mm).
3. Weighing balance, Oven.
4. Compressive testing machine.
5. Penetrometer.
6. Flexural Testing Machine.

(BCE23313P) BUILDING PLANNING AND COMPUTER AIDED CIVIL ENGINEERING DRAWINGS

List of Experiments

1. Plan of a residential building.

2. Elevation and detailed sectional view of the building plan.

3.Foundation plan and typical door, window and staircase.

3.Evacuation plan of building.

BUILDING PLANNING AND COMPUTER AIDED CIVIL ENGINEERING DRAWINGS

List of equipment

1. Computer- Windows 8.1
2. AutoCAD

(BCE23314P) CONCRETE TECHNOLOGY LABORATORY

List of Experiments

1. Testing of cement- Standard consistency, setting time, fineness, soundness and compressive strength test.
2. Testing of Aggregates.
    - Fine aggregate- Sieve analysis for zoning and fineness modulus (FM), Bulking of sand, Absorption and moisture content.
    - Coarse aggregate- Sieve analysis for grading, absorption and moisture content, flakiness index, Elongation index, Impact value, Crushing value and Abrasion value.
3. Workability test of fresh concrete.
4. Concrete Mix design- Cube Compression Test.

CONCRETE TECHNOLOGY LABORATORY

List of equipment

1. Vicat Apparatus, 90-micron sieve, Le-Chatelier apparatus and accessories, Compressive Testing Machine.
2. Set of IS sieves, Pycnometer, Length gauge, Thickness Gauge, Impact Testing Machine, Los Angeles Abrasion Apparatus and Aggregate Crushing Apparatus
3. Slump Cone
4. Compaction Factor Apparatus.

(BCE23414P) HYDRAULIC ENGINEERING LABORATORY

List of Experiments

1. Determination of Reynold's number for laminar, turbulent and transition flow.

2. Determination of friction factor for a pipe flow.

3.Impact of a jet.

4. Study of performance characteristics of a Pelton Wheel Turbine.

5. Study of performance characteristics of a Centrifugal Pump.

6. Study of constructional details and performance parameters of Reciprocating Pump.

7. Study of constructional details and performance parameters of Kaplan Turbine.

HYDRAULIC ENGINEERING LABORATORY

List of Equipment

1. Reynold's apparatus
2. Losses in pipes apparatus/Pipe Friction apparatus
3. Impact of Jet apparatus
4. Pelton Wheel Turbine Test Rig
5. Centrifugal Pump Test Rig (or Centrifugal Pump Test Apparatus)
6. Reciprocating pump test rig.
7. Kaplan Turbine Test Rig.

(BCE23413P) GEOTECHNICAL ENGINEERING LABORATORY

List of Experiments

1. Field Density (Core Cutter method).
2. Field Density (Sand replacement method).
3. Natural moisture content.
4. Specific gravity of Soils.
5. Grain size distribution by Sieve Analysis.
6. Determination of liquid limit and plastic limit
7. Permeability test (Constant-head method).
8. Permeability test (Falling-head method).
9. Compaction test.
10. Consolidation Test.

GEOTECHNICAL ENGINEERING LABORATORY

List of Equipment

1. Core cutter
2. Sand pouring cylinder.
3. Oven Drying Machine.
4. Pycnometer and density bottle.
5. Set of IS Sieves.
6. Casagrande's apparatus
7. Permeameter.
8. Standard Proctor.
9. Consolidometer.

(BCE23412P) SURVEYING AND GEOMATICS LABORATORY

List of Experiments

1. Plane Table Surveying.
2. Horizontal and Vertical angle measurement and determine the height of an object with trigonometric levelling.
3. Traversing and Map Preparation concepts of Gale’s Traverse Table.
4. Curve Setting by Rankine’s Method"
5. Traversing – Dumpy level
6. Open traverse using Total Station and GPS.

SURVEYING AND GEOMATICS LABORATORY

List of Equipment

1. Plane table, alidade, plumbob, tripod stand and compass.
2. Theodolite, ranging rods, pegs and plumbob.
3. Cross staff, arrows, compass, tape, and tripod stand.
4. Prismatic compass, tripod stand, ranging rod and pegs.
5. Dumpy Level with accessories
6. Total station and accessories, GPS

(BCE23411P) TRANSPORTATION ENGINEERING LABORATORY

List of Experiments

1. Sieve analysis.
2. Flakiness and Elongation Index.
3. Aggregate Impact Value.
4. Abrasion Value of course Aggregate.
5. Aggregate Crushing value.
6. Relative Strength and stability of subgrade soil and other paving materials.
7. Ductility of bitumen.
8. Softening point of bitumen.
9. Flash and fire point of bitumen.
10. Adhesion Property of bitumen as binder with aggregate.
11. Stability determination of asphalt mixtures for paving purpose.

TRANSPORTATION ENGINEERING LABORATORY

List of Equipment

1. Set of IS-sieves for coarse and fine aggregate.
2. Thickness gauge and Length gauge.
3. Impact testing machine.
4. Los Angeles machine.
5. Compressive testing machine, Aggregate crushing apparatus
6. CBR Testing Machine.
7. Ductility Testing machine.
8. Ring and ball apparatus.
9. Panskey Martens apparatus.
10. Stripping value test Apparatus.
11. Marshal Stability Test Apparatus.

(BCE23502P) ENVIRONMENTAL ENGINEERING LABORATORY

List of Experiments

1. Physical Characterization of water - Turbidity, Electrical Conductivity and pH.
2. Analysis of solids content of water.
3. Chemical Characterization of water - Alkalinity and acidity, Hardness and Chloride
4. Optimum coagulant dose test
5. Chemical Oxygen Demand (COD) test
6. Biochemical Oxygen Demand (BOD) test

ENVIRONMENTAL ENGINEERING LABORATORY

List of Equipment

1. Turbidimeter, conductivity meter and pH meter along with electrode.
2. Measuring Cylinder and Filter paper.
3. Burette, pipette and Erlenmeyer flask.
4. Jar test apparatus.
5. COD Digestor, Burette and pipette.
6. BOD Incubator and BOD bottle.

(BCE235PE10P) PLUMBING (WATER AND SANITATION) LABORATORY

List of Experiments

1. Demonstration of water supply pipes and fittings.
2. Cutting and joining of water supply pipes and fittings.
3. Measurement of flow of various plumbing fixtures and fittings.
4. Demonstration of DWV pipes and fittings.
5. Cutting and joining of traps, drainage pipes and fittings.
6. Site Visit.

PLUMBING (WATER AND SANITATION) LABORATORY

List of Equipment

Pipes: PVC, CPVC, GI etc. of different sizes

Common Fittings: Elbows, Tees, Couplings, Caps, Traps etc.

Valves & Fixtures: Ball Valves, Check Valves, Faucets, Sinks Showerheads, Basins, Water Closets etc.

Tools: Pipe cutters, Pliers, Pipe wrenches,

Pipe vice etc .

PROJECT LABORTORY

List of facilities available

1. Computers facilities with Internet connection is available.

2. 5 nos. of computers with installed RAM (4GB), Processor – Intel (R) core (TM) i3-4160CPU @3.60GHz and minimum storage of 238GB is available.

3. Software Available are: SAP2000, ABACUS and AutoCAD.