

## ADVANCED LABORATORIES



### **II year I sem SURVEYING LAB for CE students**

The Surveying Lab consists of an assortment of state-of-the-art equipment for performing various engineering measurements. This equipment includes four total station instruments for obtaining angle and distance measurements, four automatic engineering levels, a tripod-mounted laser level, a hand-held laser distance meter, and three hand-held, mapping grade GPS units. Ancillary equipment, such as tripods, reflective prisms, and level rods is also available.



### **II year I sem AUTOCAD LAB for CE students**

AutoCAD is used to create the computer aided designs or software applications including drafting. AutoCAD develops the application in both the 2D and 3D formats and provide the information to the application. AutoCAD provides tools to design the softwares used in the industry, architectures and project management.



### **II year II sem ENGINEERING GEOLOGY LAB For CE students**

The identification of different types of rocks and understanding their behavior are the major objectives of geology. Further, development of cracks, fissures in rocks, their causes and their remedies are to be learnt in this lab.



### **II year II sem FLUID MECHANICS LAB For CE students**

A basic knowledge of Fluid mechanics and machinery is essential for all the scientists and engineers because they frequently come across a variety of problems involving flow of fluids such as in aerodynamics, force of fluid on structural surfaces, fluid transport. This fluid mechanics lab helps to understand these physical processes more closely. Various apparatus are available in the laboratory like, Verification of Bernoulli's theorem apparatus, venturi & Orifice meters, orifice & mouth piece apparatus, Flow over notches apparatus, vortex flow apparatus etc.



### **III year I sem HYDRULICS AND HYDRULIC MECHINERY LAB For CE students**

Explore the fundamental principles of fluid mechanics through experimentation; Demonstrate and analyze key hydraulic phenomena using hands-on physical devices; Apply computer modeling as a practical tool for solving hydraulics problems; Investigate engineering design principles for pipe networks, open channel systems, and ground water regimes.



### **III year I sem ARC GIS LAB For CE students**

Geographic Information Systems (GIS) are computer based technologies & methodologies for collecting, managing, manipulating, analyzing, modeling, and presenting spatially referenced data. These systems are used for mapping and to support in geographically based decision making.



### **III year II sem SOIL MECHANICS LAB for CE students**

Soil Testing is an integral part of soil mechanics and foundation engineering. A proper evaluation of soil samples and analysis of test results are essential of students and practicing civil Engineers. Tri-axial Testing machine, Direct Shear testing machine, Unconfined compression testing machine , consistency limit testing machines available in the laboratory.



### **III year II sem CONCRETE TECHNOLOGY LAB for CE students**

The testing and inspection of concrete and concrete aggregates are important elements in obtaining quality construction. The laboratory allows students test to assess the various fresh and hardened concrete properties that may affect the performance of concrete members. There many apparatus and machines available at the concrete technology lab like Sieve Shaker, Compressive testing machine, Flexure Testing Machine, Compaction Factor Apparatus, Heat of Hydration apparatus, Permeability apparatus etc.



#### **IV year I sem CONCRETE TECHNOLOGY AND HIGHWAY MATERIAL LAB for CE students**

For the design the construction of highway and airfield, it is imperative to carry out tests on construction materials for their scientific designing and economic utilization. The prime objective of the different tests in use is to know and classify the pavement material into different group depending upon their physical and strength or stability characteristics. Marshall Stability Testing machine, ductility testing machine, penetration testing machine aggregate impact testing machine, abrasion testing machine, CBR testing machine are available in the laboratory.



#### **IV year I sem ENVIRONMENTAL ENGINEERING LAB for CE students**

The Environmental Engineering laboratory practical provides good insight into different experimental methods relevant to Environmental Engineering. In this lab we performs various test on drinker water and sewage samples to check pH value, total dissolved solids, BOD and COD, total suspended particles etc. as per BIS standard. It helps in to assess the water quality standard of the region, pollution load in sewage and working efficiency of sewage and other water treatment unit. Experiment on ambient air pollution parameter such as SO<sub>x</sub>, NO<sub>x</sub> and SPM, and noise pollution measurement are also performed in this lab.