

WORLD INSTITUTE OF TECHNOLOGY, SOHNA

CIVIL ENGINEERING DEPARTMENT LAB DETAILS

STRUCTURAL ANALYSIS LAB:-

Structural analysis is the determination of the effects of loads on physical **structures** and their components. **Structures** subject to this type of **analysis** include all that must withstand loads, such as buildings, bridges, vehicles, furniture, attire, soil strata, prostheses and biological tissue.

- a) **Unsymmetrical bending of a cantilever beam**
- b) **Column and struts**
- c) **Two and Three hinged arch apparatus**
- d) **Elastically coupled beam**

TRANSPORTATION ENGINEERING LAB:-

Transportation engineering or **transport engineering** is the application of technology and scientific principles to the planning, functional design, operation and management of facilities for any mode of transportation in order to provide for the safe, efficient, rapid, comfortable, convenient, economical, and environmentally compatible movement of people and goods.

- a) **Aggregates Impact test**
- b) **California Bearing Ratio value test**
- c) **Marshall stability test**
- d) **Los Angeles abrasion test**

GEOTECHNOLOGY ENGINEERING LAB:-

Geotechnical engineering is the branch of civil engineering concerned with the engineering behavior of earth materials. Geotechnical engineering is important in civil engineering, but also has applications in military, mining, petroleum and other engineering disciplines that are concerned with construction occurring on the surface or within the ground.

- a) **Liquid limit and plastic limit determination**
- b) **Water content determination**
- c) **Relative density test**
- d) **Standard Penetration test**
- e) **Grain size analysis by sieve analysis and hydrometer**

SURVEYING LAB:-

The profession or work of examining and recording the area and features of a piece of land so as to construct a map, plan, or detailed description of it.

- a) **Theodolite**
- b) **Total Station**
- c) **Plane Table surveying**
- d) **Compass Surveying**
- e) **Auto and Dumpy level**

CONCRETE TECHNOLOGY LAB:-

The process to choose, mix and maintain the right type ,quality and quantity of raw material to get desired type of end product in this case-concrete is called as **concrete technology**.

- a) **Compaction factor test**
- b) **Slump test**
- c) **Concrete cube test**
- d) **Compressive strength test**

FLUID MECHANICS LAB:-

Fluid mechanics is a branch of physics concerned with the mechanics of fluids (liquids, gases, and plasmas) and the forces on them. Fluid mechanics has a wide range of applications, including mechanical engineering, civil engineering, chemical engineering etc.

- a) **Bernoulli apparatus**
- b) **Venturimeter apparatus**
- c) **Orifice Plate apparatus**
- d) **Centrifugal Pump apparatus**
- e) **Cavitation in pipe flow**

GEOLOGY LAB:-

The science which deals with the physical structure and substance of the earth, their history, and the processes which act on them.

- a) **Physical properties of minerals**
- b) **Recognition of rocks**
- c) **Identification of rock forming silicates**
- d) **Use of Clinometers Compass**