

# FLUID MECHANICS & MACHINERY LABORATORY

Fluid mechanics is a discipline of physics that studies all fluids in static and dynamic situations. Fluid mechanics is divided into two branches: fluid statics, which studies fluids at rest, and fluid dynamics, which studies the effect of forces on fluid motion. This research topic deals with a wide range of issues, including surface tension, fluid statics, flow in enclosed bodies, flow round bodies (solid or otherwise), flow stability, and so on. It is critical to understand the operating principles and characteristics of fluid dynamics from an engineering perspective.

## **OBJECTIVE:**

The Fluid Mechanics laboratory is intended for investigating fluid properties and conducting experiments involving both incompressible and compressible flow. To enhance our students' hands-on experience, facilities are available for researching the principles of fluid statics, as well as the kinematics and kinetics of fluid flow. It is an introduction course that introduces flow behaviour, fluid forces, and analysis techniques. The experiments' goals include determining the forces generated when fluid flow occurs across a solid object, applying the control volume approach, flow measurements, major and minor losses in the flow, and determining the state of flow using the Reynolds experiment.

## **MAJOR EQUIPMENT**

1. Determination of the co-efficient of discharge of given orifice meter
2. Determination of the co-efficient of discharge of given venturi meter
3. Calculation of the rate of flow using roto meter
4. Flow through pipes – friction factor
5. Characteristics curves of centrifugal pump
6. Characteristics curves of reciprocating pump
7. Characteristics curves of gear oil pump
8. Characteristics curves of Pelton wheel
9. Characteristics curves of Francis turbine
10. Kaplan turbine test ring
11. Bernoulli's theorem verification apparatus
12. Impact of jet over a flat surface





LAB INCHARGE: Dr. S. SURESH PUNGAI AH  
Assistant Professor (O.G.)