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SETHU INSTITUTE OF TECHNOLOGY

Pulloor, Kariapatti – 626 115

(An Autonomous Institution)

(Approved by AICTE, New Delhi and affiliated to Anna University, Chennai)

Department of Civil Engineering

Name of the Course code & Course Name: 15UCE406 – Applied Hydraulics Engineering (LAB VISIT)

Flow through pipes is an important engineering problem in fluid mechanics. Almost in all our daily operations, we come across pipe flow. For example, the household water supply, sewage flows etc. The pipe flow is also used for the transportation of chemicals and petroleum products in different chemical and oil industries.

Here, we will discuss this important type of problem, i.e., the flow of fluids through pipes. We consider the flow of real fluids i.e. the fluids possessing viscosity. Thus, flow of all real fluids is termed as viscous flows. For real fluids, the property viscosity is characterized by the shear stresses or the frictional forces between the fluid layers and fluid to solid surface. Now the question is what causes the flow of real fluids? You need to understand that in case of a real fluid flow, the mechanical energy at the upstream section is more than at the downstream section. That means fluid flows by virtue of the energy gradient. So, energy is the potential that causes the flow of real fluids in pipes or any other flowing devices.



Course Coordinator
R.Logaraja

HOD/Civil