



# INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

## DEPARTMENT OF MECHANICAL ENGINEERING

### FLUID MECHANICS AND HYDRAULICS MACHINES LABORATORY

This laboratory introduces students practical knowledge of behavior of fluids which they are earlier studied by using mathematical equations. It involves study of various properties of the fluid, such as velocity, pressure, density and temperature as functions of space and time. Fluid mechanics is the branch of physics which deals with the properties of fluids, namely liquids and gases, and their interaction with forces. The lab is equipped with different flow measuring set-ups such as venturimeter, orifice-meter, mouth piece, rotometer, flow through pipes, centrifugal pumps, turbines. where students can visualize the basic theory of working of the flow meter.

#### List of Equipment

S. No	Item	Make	Quantity	Cost per Unit (Rs.)	Total Cost (Rs.)
1	Kaplan Turbine Test Rig	CES	1	1,36,500	1,36,500
2	Pelton Wheel Test Rig	CES	1	1,26,000	1,26,000
3	Francis Turbine Test Rig	CES	1	1,19,385	1,19,385
4	Flow through external mouth pieces	Mechtrix Engineers	1	55,945	55,945
5	Flow through wires and Notches	Mechtrix Engineers	1	32,130	32,130
6	Single-stage centrifugal pump	CES	1	28,917	28,917
7	Multi-stage centrifugal pump	CES	1	28,917	28,917
8	Impacts of jet on vanes	CES	1	24,570	24,570
9	Venturi meter Apparatus	CES	1	23,814	23,814
10	Friction through a Pipe Apparatus	CES	1	22,113	22,113
11	Reciprocating Pump Test Rig	CES	1	22,113	22,113
12	Bernoulli's Apparatus	CES	1	18,711	18,711
13	Tachometers- Model HTM 590 TO5DZV0003	HTM	4	1,506	6,024
14	Stop watches	Racer	4	1,000	4,000
<b>Total Cost (Rs.)</b>					<b>6,49,139</b>
<i>(In words: Rupees Six lakhs forty nine thousand one hundred and thirty nine only)</i>					

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