II Year-II Semester
(20CE4106) Hydraulics & Hydraulic Machines Lab

Int. Marks	Ext. Marks	Total Marks	L	T	P	C
30	70	100	-	-	3	1.5

Pre- Requisites: Fundamentals of Engineering Mechanics& Fluid mechanics

List of Experiments

1. Calibration of Venturi meter
2. Calibration of Orifice meter
3. Determination of Coefficient of discharge for a small orifice by a constant head method.
4. Calibration of contracted Rectangular Notch and /or Triangular Notch
5. Determination of Coefficient of loss of head in a sudden contraction
6. Determination of Coefficient of friction factor.
7. Verification of Bernoulli's equation.
8. Impact of jet on vanes
9. Performance test on Pelton wheel turbine
10. Performance test on Francis turbine.
11. Efficiency test on centrifugal pump.
12. Efficiency test on reciprocating pump.

List of Equipment:

1. Venturi meter setup.
2. Orifice meter setup.
3. Small orifice setup.
4. External mouthpiece setup.
5. Rectangular and Triangular notch setups.
6. Friction factor test setup.
7. Bernoulli's theorem setup.
8. Impact of jets.
9. Hydraulic jump test setup.
10. Pelton wheel and Francis turbines.
11. Centrifugal pump setup
12. Reciprocating pumps set up

Course Outcomes:

S.No	Course Outcomes	BTL
1	Determine the discharge of flow through venture meter and orifice meter, loss of head due to sudden contraction and friction in pipe and verify bernoulli's equation	L4
2	Determine Cd for a small orifice by constant Head method	L4
3	Determine discharge of flow using V notch and Rectangular notch	L4
4	Determine the force exerted by jet and study efficiency of Pelton wheel, francis turbine	L4
5	Determine the efficiency of Centrifugal and reciprocating pumps	L4

Correlation of COs with POs& PSOs:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	3	3	3	2	2	-	2	1	2	1	1	2	1	-	2
2	3	3	3	2	2	-	2	1	2	1	1	2	1	-	2
3	3	3	3	2	2	-	2	1	2	1	1	2	1	-	2
4	3	3	3	2	2	-	2	1	2	1	1	2	1	-	2
5	3	3	3	2	2	-	2	1	2	1	1	2	1	-	2