FLUID MECHANICS & HYDRAULIC MACHINERY LAB

Course Code	23ME3452	Year	II	Semester	II
Course Category	Professional Core	Branch	ME	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Pre-requisites	NIL
Continuous Internal Evaluation:	30	Semester End Evaluation:	70	Total Marks:	100

Course Outcomes

Upon successful completion of the course, the student will be able to

CO	Statement	Skill	Blooms	Experiment
CO1	Apply the knowledge to estimate losses in pipes and coefficient of discharge for various flow measuring devices	Apply	L3	1,2,3,4,5
CO2	Apply the knowledge to estimate the coefficient of the impact of jet on vanes.	Apply	L3	6
CO3	Analyze Bernoulli‘s theorem.	Analyze	L4	7
CO4	Evaluate the performance of pumps and turbines.	Evaluate	L5	8,9,10,11,12

Contribution of Course Outcomes towards achievement of Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3											3	3
CO2	3	3											3	3
CO3	3	3											3	3
CO4	3	3											3	3

Course Content

Expt No	Contents	Mapped CO
Experiment-1	Determination of loss of head due to the sudden contraction in a pipeline.	CO1
Experiment-2	Determination of friction factor for a given pipeline.	CO1
Experiment-3	Determination of coefficient of discharge of Triangular Notch	CO1
Experiment-4	Determination of coefficient of discharge of Venturimeter.	CO1
Experiment-5	Determination of coefficient of discharge of Orifice meter.	CO1
Experiment-6	Determination of coefficient of Impact of jets on Stationary Vanes.	CO2
Experiment-7	Verification of Bernoulli’s equation.	CO3
Experiment-8	Performance Test on Single Stage Centrifugal Pump.	CO4
Experiment-9	Performance Test on Multi Stage Centrifugal Pump.	CO4
Experiment-10	Performance Test on Pelton Wheel.	CO4
Experiment-11	Performance Test on Kaplan Turbine.	CO4

Experiment-12	Performance Test on Francis Turbine.	**CO4**
Learning Resources		
Text books:	1.K.L.Kumar."Engineering Fluid Mechanics" Experiments, Eurasia Publishing House, 1997 2.Hydraulics and Fluid Mechanics, by P.N.Modi and S.M.Seth, Standarard book house, 2000, New Delhi.	
Reference books	1.Jagdish Lal, Hydraulic Machines, Metropolitan Book Co, Delhi, 1995 2.Fluid Mechanics and Hydraulic Machines, by Sukumar Pati, Mc Graw Hill Education Private Limited, 2014, New Delhi. 3.Hydraulics and Fluid Mechanics and fluid machines, by S Ramamrutham, Dhanapat rai publishing company, New Delhi	