FLUID MECHANICS LAB

Course Code	1 9ME3452	**Year**	II	**Semester**	I
Course Category	Program Core	**Branch**	ME	**Course Type**	Practical
Credits	1.5	**L – T – P**	0 – 0 – 3	**Prerequisites**	NIL
Continuous Internal Evaluation	25	**Semester End Evaluation**	50	**Total Marks**	75

Course Outcomes		**Levels**
After successful completion of the course, the student will be able to		
CO1	Estimate major and minor losses in pipes.	L2
CO2	Evaluate coefficient discharge of various flow measuring devices.	L2
CO3	Determine the coefficient of the impact of jet on vanes.	L3
CO4	Verify Bernoulli's theorem.	L3
CO5	Test the performance of pumps and turbines.	L3

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3-High, 2: Medium, 1: Low)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	1		1									2	3
CO2	3	1		2									2	3
CO3	3	1		2									2	3
CO4	3	1		1									2	3
CO5	3	1		1									2	3

Syllabus

Expt.No	**Contents**	**Mapped COs**
1.	Determination of loss of head due to the sudden contraction in a pipeline.	CO1
2.	Determination of friction factor for a given pipeline.	CO1
3.	Determination of coefficient of discharge of Triangular Notch	CO2
4.	Determination of coefficient of discharge of Venturimeter.	CO2
5.	Determination of coefficient of discharge of Orifice meter.	CO2
6.	Determination of coefficient of Impact of jets on Stationary Vanes.	CO3
7.	Verification of Bernoulli"s equation.	CO4
8.	Performance Test on Single Stage Centrifugal Pump.	CO5
9.	Performance Test on Multi Stage Centrifugal Pump.	CO5
10.	Performance Test on Pelton Wheel.	CO5
11.	Performance Test on Kaplan Turbine.	CO5
12.	Performance Test on Francis Turbine.	CO5

Learning Resources
Text books:
1.K.L.Kumar."Engineering Fluid Mechanics" Experiments, Eurasia Publishing House, 1997 2.Jagdish Lal, Hydraulic Machines, Metropolitan Book Co, Delhi, 1995
Reference books
1. Hydraulics and Fluid Mechanics, by P.N.Modi and S.M.Seth, Standarard book house, 2000, New Delhi. 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