

Course code	Course Name	L-T-P-Credits	Year of Introduction
IC333	FLUID MEASUREMENTS LAB	0-0-3-1	2016
Prerequisite : IC208 Mechanical instrumentation			
<p>Course Objectives To make the student capable of</p> <ul style="list-style-type: none"> • Measuring fluid flow in open and closed channels • Calibrating flow measuring instruments • Handling pipe fittings. 			
<p>List of Experiments (Minimum of 12 experiments are to be done)</p> <ol style="list-style-type: none"> 1. Calibration and determination of Cd of a Venturimeter. 2. Calibration and determination of Cd of an orifice meter. 3. Calibration and determination of Cd of a Rectangular notch. 4. Determination of pipe friction factors of different pipes 5. Determination of minor losses in pipe fittings 6. Study of pipe fittings-Demonstration and practise of fitting in a line 7. Determination of metacentric height and radius of gyration 8. Calibration and determination of cd for triangular notch. 9. Calibration and Measurement of flow using rotameter 10. Determination of cd, cc and cv of an orifice 11. Calibration and determination of cd for Trapezoidal notch. 12. Determination of cd using time of emptying method 13. Calibration of a bourdon tube pressure gauge 14. Calibration and Measurement of flow using watermeter 15. Experiment for verification of Bernoulli's theorem 16. Determination of coefficient of impact for vanes 17. Determination of viscosity and variation of viscosity with temperature 18. To determine the critical Reynolds number of flow 			
<p>Expected Outcome The students will be</p> <ol style="list-style-type: none"> i. able to design a set up based on the fundamental fluid mechanics principles to measure different parameters ii. capable of designing and fabricating simple layouts for piping that can be fitted to domestic or industrial appliances 			
<p>TEXT BOOK R.K.Rajput, "A text book of fluid mechanics and hydraulic machines in SI units", S.Chand &Company</p>			