Course Code	Course Name	L-T-P-Credits	Year of Introduction
CE234	FLUID MECHANICS LABORATORY	0-0-3-1	2016

Prerequisite : CE203 Fluid Mechanics- I

Course objectives

1. Students should be able to verify the principles studied in theory by performing the experiments in laboratory

Expected Outcome

1. The students will be able to understand the different flow measurement equipment's and their procedures.
2. The students will be able to analyze the performance characteristics pumps/turbines.
3. Able to develop the skill of experimentation techniques for the study of flow phenomena in channels/pipes.

List of Experiments (Minimum 12 nos. mandatory)

1. Study of taps, valves, pipe fittings, gauges, pitot tubes, water meters and current meters.
2. Calibration of Pressure gauges
3. Determination of metacentric height and radius of gyration of floating bodies.
4. Verification of Bernoulli's theorem
5. Hydraulic coefficients of orifices and mouth pieces under constant head method and time of emptying method.
6. Calibration of Venturimeter.
7. Calibration of Orifice meter
8. Calibration of water meter.
9. Calibration of rectangular and triangular notches.
10. Time of Emptying : unsteady flow
11. Determination of Darcy's and Chezy's constant for pipe flow.
12. Determination of Chezy's constant and Manning's number for open channel flow.
13. Plotting Specific Energy Curves in Open Channel flow
14. Study of Parameters of Hydraulic Jump in Open channel Flow.
15. Determination of friction co-efficient in pipes
16. Determination of loss co-efficient for pipe fittings

17. Performance characteristics of centrifugal pump.
18. Performance characteristics of Pelton wheel.
19. Performance characteristics of Francis turbine.
20. Performance characteristics of Kaplan turbine.

Internal Continuous Evaluation - 100 marks

Record/output (Average) - 60 marks

Viva-voce (Average) - 10 marks

Final practical exam -30 marks