


B. E. CIVIL ENGINEERING Choice Based Credit System (CBCS) and Outcome Based Education (OBE) SEMESTER - IV FLUID MECHANICS AND HYDRAULIC MACHINES LABORATORY			
Course Code	18CVL48	CIE Marks	40
Teaching ours/Week(L:T:P)	(0:2:2)	SEE Marks	60
Credits	02	Exam Hours	03
Course Learning Objectives: This course will enable students to; <ol style="list-style-type: none"> 1. calibrate flow measuring devices 2. determine the force exerted by jet of water on vanes 3. measure discharge and head losses in pipes 4. understand the fluid flow pattern 			
Experiments: <ol style="list-style-type: none"> 1. Verification of Bernoulli's equation. 2. Determination of Cd for Venturimeter and Orifice meter. 3. Determination of hydraulic coefficients of small vertical orifice. 4. Determination of C_d for Rectangular and Triangular notch 5. Determination of C_d for Ogee and Broad crested weir 6. Determination of C_d for Venturiflume 7. Determination of force exerted by a jet on flat and curved vanes. 8. Determination of efficiency of Pelton wheel turbine 9. Determination of efficiency of Francis turbine 10. Determination of efficiency of Kaplan turbine 11. Determination of efficiency of centrifugal pump 12. Determination of Major Loss in Pipes 13. Determination of Minor losses in pipe due to sudden enlargement, sudden contraction and bend. 			
Course outcomes: During the course of study students will develop understanding of: <ol style="list-style-type: none"> 1. Properties of fluids and the use of various instruments for fluid flow measurement. 2. Working of hydraulic machines under various conditions of working and their characteristics. 			
<ul style="list-style-type: none"> • All experiments are to be included in the examination except demonstration exercises. • Candidate to perform experiment assigned to him. • Marks are to be allotted as per the split up of marks shown on the cover page of answer script. 			
Reference Books: <ol style="list-style-type: none"> 1. Sarbjit Singh , Experiments in Fluid Mechanics - PHI Pvt. Ltd.- New Delhi 2. Mohd. Kaleem Khan, "Fluid Mechanics and Machinery", Oxford University Press 3. Hydraulics and Fluid Mechanics' – Dr. P.N. Modi & Dr S.M. Seth, Standard Book House- New Delhi. 2009 Edition 			


 H.O.D.
 Dept. of Civil Engineering
 Alva's Institute of Engg. & Technology
 Mijar, Moodbidri - 574 225