

AERODYNAMICS LAB

IV Semester								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
A5AE14	PCC	L	T	P	C	CIA	SEE	Total
		-	-	3	1.5	30	70	100
<p>COURSE OBJECTIVES: The course should enable the student:</p> <ol style="list-style-type: none"> 1. To understand and study the operation of subsonic wind tunnel. 2. To study experimentally the pressure distribution of circular, symmetric and cambered airfoil 3. To study Flow visualization studies in low speed flow over airfoil with different angle of incidence and over cylinder 4. To determine the drag coefficient for a Cylinder. 5. They can analyse the performance of axial and centrifugal compressors. 								
LIST OF EXPERIMENTS								
<ol style="list-style-type: none"> 1. Calibration of subsonic wind tunnel. 2. Pressure distribution over smooth and rough cylinder. 3. Pressure distribution over symmetric airfoils. 4. Pressure distribution over cambered airfoils 5. Flow visualization studies in low speed flows over sphere. 6. Flow over a flat plate at different angles of incidence. 7. Flow visualization studies in low speed flows over cylinders. 8. Flow visualization studies in low speed flows over airfoil with different angle of incidence. 9. Fluid flow studies using a blower. 10. Drags of different bodies. <p>Note: Ten experiments should be performed.</p>								
<p>Reference Books: Anderson J .D.(2011), Fundamental of Aerodynamics, 5th edition, McGraw-Hill International Edition, New York</p>								
<p>COURSE OUTCOMES: The students should be able to:</p> <ol style="list-style-type: none"> 1. Illustrate the pressure distribution over different aerodynamic shapes 2. Analyze the air flow pattern over different aerodynamic bodies using visualization techniques 3. Estimate the efficiencies of axial and centrifugal compressor 4. Determine the efficiency and flow rate of blower 5. Asses the aerodynamic characteristics of different bodies 								