

Course code	Course Name	L-T-P - Credits	Year of Introduction
ME333	HEAT ENGINES LAB	0-0-3-1	2016
<b>Prerequisite : Nil</b>			
<b>Course Objectives</b> <ul style="list-style-type: none"> <li>To give hands on experience in tesing different properties of fuels &amp; lubricants</li> <li>To perform characteristic tests on petrol and diesel engines.</li> </ul>			
<b>List of Exercises/Experiments :</b> <ol style="list-style-type: none"> <li>Determination of viscosity using Saybolt Viscometer.</li> <li>Determination of viscosity using Redwood Viscometer.</li> <li>Determination of Flash point and Fire point using Pensky Marten's Apparatus.</li> <li>Fuel Injection Pump Testing and Calibration of Fuel Injection pump.</li> <li>Performance Test on Multi cylinder Four Stroke Diesel Engine.</li> <li>Performance Test on Multi cylinder Four Stroke Petrol Engine.</li> <li>Retardation Test on Twin cylinder Four Stroke Diesel Engine.</li> <li>Morse Test on Multi cylinder Four Stroke Petrol engine.</li> <li>Heat Balance Test on Multi cylinder Four Stroke Diesel Engine.</li> <li>Volumetric Efficiency Test on Multi cylinder Four Stroke Diesel Engine.</li> <li>Volumetric Efficiency Test on Multi cylinder Four Stroke Petrol Engine.</li> <li>Cooling curve Test on Twin cylinder Four stroke Diesel Engine.</li> <li>Valve Timing on Four stroke Diesel/ Petrol Engine</li> <li>Determination of calorific value of liquid fuel using bomb calorimeter</li> <li>Determination of calorific value of gaseous fuel using Junker's calorimeter</li> </ol> <p><b>Note: Minimum 12 experiments are mandatory</b></p>			
<b>Expected outcome:</b> The students will be able to <ol style="list-style-type: none"> <li>Test different Properties of fuels and lubricants.</li> <li>Test petrol and diesel engines to evaluate their performance</li> </ol>			
<b>List of Equipments</b> <ul style="list-style-type: none"> <li>Saybolt viscometer</li> <li>Redwood viscometer</li> <li>Pensky Marten's flash &amp; fire point apparatus</li> <li>Fuel pump testing and calibrating machine</li> <li>Single/multicylinder engine (petrol/diesel) for valve timing</li> <li>Single/Twin cylinder 4 stroke diesel engine with rope drum/electrical dynamometer</li> <li>Multi cylinder petrol engine with eddycurrent/hydraulic dynamometer</li> <li>Multi cylinder diesel engine with eddycurrent/hydraulic dynamometer</li> <li>Bomb Calorimeter</li> <li>Junker's gas calorimeter</li> </ul>			