

Course code	Course Name	L-T-P - Credits	Year of Introduction
ME333	HEAT ENGINES LAB	0-0-3-1	2016
Prerequisite : Nil			
Course Objectives <ul style="list-style-type: none">• To give hands on experience in tesing different properties of fuels & lubricants• To perform characteristic tests on petrol and diesel engines.			
List of Exercises/Experiments : <ol style="list-style-type: none">1. Determination of viscosity using Saybolt Viscometer.2. Determination of viscosity using Redwood Viscometer.3. Determination of Flash point and Fire point using Pensky Marten's Apparatus.4. Fuel Injection Pump Testing and Calibration of Fuel Injection pump.4. Performance Test on Multi cylinder Four Stroke Diesel Engine.5. Performance Test on Multi cylinder Four Stroke Petrol Engine.6. Retardation Test on Twin cylinder Four Stroke Diesel Engine.7. Morse Test on Multi cylinder Four Stroke Petrol engine.8. Heat Balance Test on Multi cylinder Four Stroke Diesel Engine.9. Volumetric Efficiency Test on Multi cylinder Four Stroke Diesel Engine.10. Volumetric Efficiency Test on Multi cylinder Four Stroke Petrol Engine.11. Cooling curve Test on Twin cylinder Four stroke Diesel Engine.12. Valve Timing on Four stroke Diesel/ Petrol Engine13. Determination of calorific value of liquid fuel using bomb calorimeter14. Determination of calorific value of gaseous fuel using Junker's calorimeter <p>Note: Minimum 12 experiments are mandatory</p>			
Expected outcome: <p>The students will be able to</p> <ol style="list-style-type: none">i. Test different Properties of fuels and lubricants.ii. Test petrol and diesel engines to evaluate their performance			
List of Equipments <ul style="list-style-type: none">• Saybolt viscometer• Redwood viscometer• Pensky Marten's flash & fire point apparatus• Fuel pump testing and calibrating machine• Single/multicylinder engine (petrol/diesel) for valve timing• Single/Twin cylinder 4 stroke diesel engine with rope drum/electrical dynamometer• Multi cylinder petrol engine with eddycurrent/hydraulic dynamometer• Multi cylinder diesel engine with eddycurrent/hydraulic dynamometer• Bomb Calorimeter• Junker's gas calorimeter			