

THERMAL LABORATORY

Thermal Laboratory gives students a lot of opportunities to study different types of IC engines, boiler performance studies, and to work on new solutions. Performance, heat balance, retardation, and emission tests can be performed in a variety of IC engines, including petrol/diesel fueled with single/double/multi-cylinder engines with modern mechanical/electrical/hydraulic loading devices. To perform emission and smoke tests, a modern digital 5 gas analyzer and an AVL smoke meter are provided.

This lab is equipped with heat exchangers, equipment for conducting conduction, convection, and radiation tests, refrigeration systems, and so on. All these tools aid in the understanding of basic thermodynamics and thermal engineering at the undergraduate level.

Objective: To apply the thermodynamic concepts into various thermal application like IC Engines, Steam Turbines, Compressors and Refrigeration and Air Conditioning systems.

MAJOR EQUIPMENT

1. Computerized experimental analysis of Exhaust Emissions for Petrol & Diesel Engines and Boilers using LAB VIEW software
2. Computerized experimental analysis of Heat pump refrigeration test rig using LAB VIEW software
3. Computerized experimental analysis of twin cylinder 4-S diesel engine with electrical loading
4. Experimental analysis of diesel boiler with turbine setup.
5. Experimental analysis of single cylinder 4-S diesel engine with hydraulic loading.

RESEARCH EQUIPMENT

1. Computerized experimental analysis of Thermal conductivity for various cross section material using LAB VIEW software
2. Computerized experimental analysis of heat transfer rate in various car radiators setup.
3. Computerized experimental analysis of heat transfer rate in the duct design setup.
4. Experiment analysis of spiral tube heat exchangers for various fluids.





