THERMAL ENGINEERING LABORATORY

Thermal engineering deals with the conversion of energy to useful work, mainly the conversion of heat energy to work. Thermal engineering needs a good understanding of the principles of Thermodynamics, Heat transfer and Fluid mechanics.

Thermal engineering finds applications in many fields such as working of IC engines, Power plant systems etc.

In this laboratory, students will have the opportunity to perform experiments to understand the principles such as valve and port timing diagrams and their importance; understand difference between two and four stroke engines; understand the performance parameters of SI and CI engines; to obtain heat (energy) balance in an engine and understand the energy conversion mechanism etc.

These experiments help students to reinforce the theoretical principles taught in the classroom and give them a good foundation to understand the energy conversion process.

The facilities available in the laboratory:

- 4-S C I Single Cylinder water cooled Diesel Engine
- 4-S Single Cylinder water Cooled Diesel Engine
- Sectional model 4-S petrol and 2-S petrol engine
- 4-S Twin cylinder water cooled diesel
- 4-S Multi cylinder water cooled petrol engine.
- Air Compressor Rig and Old Engine
- Models of Fire tube boilers and Water tube boiler
- Computerized variable compression ratio multi fuel engine With Exhaust gas analyzer.

S.No	Name of major equipments	Photo/Image
1.	Four Stroke Single Cylinder water Cooled Diesel Engine with rheostat	

S.No	Name of major equipments	Photo/Image
2.	Old Engine (Four Stroke Single cylinder water cooled Diesel Engine)	

S.No	Name of major equipments	Photo/Image
3.	Four-Stroke Twin cylinder water cooled diesel engine	

S.No	Name of major equipments	Photo/Image
4.	Air Compressor Rig	
5.	Cut model of 4-S petrol engine (for value timing diagram)	

S.No	Name of major equipments	Photo/Image
6.	Cut model of 2-S petrol engine (for port timing diagram)	

S.No	Name of major equipments	Photo/Image
7.	Boilers Models: a) Simple vertical Boiler b) Cochran Boiler c) Lancashise Boiler d) Cornislled Boiler e) Locomotive Boiler f) Babcock & Wilson Boiler g) Sterling Boiler	

S.No	Name of major equipments	Photo/Image
8.	Four-Stroke four cylinder water cooled petrol engine.	

S.No	Name of major equipments	Photo/Image
9.	Computerized variable compression ratio multi fuel engine.	

S.No	Name of major equipments	Photo/Image
10.	Four Stroke Engine Compression ignition single cylinder water cooled Diesel engine with rope brake dynamometer	

S.No	Name of major equipments	Photo/Image
11.	Two Stroke single cylinder petrol engine