

THERMAL ENGINEERING LAB

Objective: Thermal Engineering lab is equipped with internal combustion engines, boilers and test rigs with an aim to inculcate practical knowledge.



Sections Handled: II A & B

Major Equipment Details:

S. No	Name of the Equipment	Quantity
1	Four stroke diesel engine cut section model	1
2	Four stroke petrol engine cut section model	1
3	Two stroke petrol engine cut section model	1
4	Multi cylinder four stroke petrol engine test rig, with Dynamometer	1
5	Single cylinder four stroke petrol engine test rig with mechanical dynamometer	1
6	Single cylinder four stroke diesel engine test rig with retardation equipment	1
7	Single cylinder two stroke petrol engine test rig with eddy current dynamometer	1
8	Two stage two cylinder air compressor test rig	1
9	Models of Lancashire, Wilcox, Cornish, locomotive, and Cochran boiler models	1
10	Variable compression ratio four stroke single cylinder diesel engine test rig	1
11	Exhaust gas Analyzer AVL DIGAS 444N, 5 GAS (Analyzer) (CO, HC, CO ₂ , O ₂ And NO _x)	1

Lab In charge with qualification: - Mr. Pavan Satyanarayan, M.Tech, (Ph. D)

Lab Technical name with qualification: S.Venkata Rao, D.M.E

Experiments List as per Curriculum:

1. I.C. Engines valve / port timing diagrams.
2. I.C. Engines performance test (4 -stroke diesel engines)
3. I.C. Engines performance test on 2-stroke petrol.
4. I.C. Engines performance test on multi cylinders 4-stroke petrol engine
5. Evaluation of engine friction by conducting Morse test on 4-stroke multi cylinder petrol engine.
6. Determination of FHP by retardation and motoring test on IC engine.

7. I.C. Engines heat balance.
8. Economical speed test of an IC engine.
9. Performance test on variable compression ratio engines.
10. Performance test on reciprocating air compressor unit.
11. Study of boilers
12. Dis-assembly / assembly of Engines.

Experiment list beyond the curriculum

1. Heat balance test on 4-stroke, single Cylinder diesel engine test rig.
2. Dis-assembly and assembly of a 4-Stroke 4- Cylinder engine.