THERMAL ENGINEERING LAB

Course Code: 13ME2308 **L P C**
0 3 2

Pre requisites: Thermodynamics, Thermal Engineering and Heat Transfer

Course Educational Objectives:

To make the student learn

1. measurement of compressibility factor of real gases
2. estimation of dryness fraction of steam
3. analysis of exhaust gases and flame propagation
4. performance test of variable compression ratio diesel engine , R& AC systems and heat pipe
5. pin fin experiment under forced and natural convection
6. double pipe heat exchanger performance under parallel and counter flow conditions
7. evacuated tube concentrator

Courses Outcomes:

The student will be able to

1. measure the compressibility factor of real gases
2. estimate the dryness fraction of steam
3. analyze exhaust gases and flame propagation
4. conduct performance test on variable compression ratio diesel engine , R& AC systems and heat pipe
5. conduct performance test on pin fin under forced and natural convection
6. conduct performance test on double pipe heat exchanger under parallel and counter flow conditions
7. test the evacuated tube concentrator

LIST OF EXPERIMENTS:

Any TEN Experiments.

1. Compressibility factor measurement of different real gases.
2. Dryness fraction estimation of steam.
3. Performance test on a variable compression ratio (VCR) diesel engine.
4. Exhaust gas analysis with gas analyzer.
5. COP of refrigeration system.
6. Performance of an air-conditioning system.
7. Pin fin experiment under natural convection heat transfer conditions.
8. Pin fin experiment under forced convection heat transfer conditions.
9. Double pipe heat exchanger with parallel and counter flow.
10. Finned tube heat exchanger.
11. Performance of heat pipe.
12. Evacuated tube concentrator.