THERMAL ENGINEERING LAB

I Semester

Course Code: 19ME2204

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Course Outcomes: At the end of the course the student shall be able to

CO1: Find the compressibility factor of real gases and dryness fraction of steam.
CO2: Evaluate the performance of variable compression engines, air conditioning systems, heat pipe and refrigeration system.
CO3: Determine the overall heat transfer co-efficient for double pipe heat exchanger with parallel, counter flow and finned tube heat exchanger.
CO4: Analyze exhaust gases, test the evacuated tube concentrator and test the performance of pin fin under natural convection and forced convection.
CO5: Determine the efficiency of a solar air heater and moisture removal rate in an agricultural product by using solar air heater.

LIST OF EXPERIMENTS: Any TEN experiments from the following

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. Performance of an air-conditioning system.
5. COP of refrigeration system.
6. Performance of heat pipe.
7. Double pipe heat exchanger with parallel/counter flow.
8. Finned tube heat exchanger.
9. Exhaust gas analysis with gas analyzer.
10. Pin fin experiment under natural/forced convection heat transfer conditions.
11. Measurement of thermal efficiency of a solar air heater.
12. Determination of moisture removal rate from agricultural products using a solar air heater.