3/4 B.Tech. SIXTH SEMESTER

ME6L2 HEAT TRANSFER LAB Credits: 2

Lecture:- - Internal assessment: 25marks
Lab practice: 3 periods/week Semester end examination: 50 marks

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Objectives:

1. Define the fundamental concepts to students in the area of heat transfer and its applications.
2. Recognize the practical significance of various parameters those are involved in different modes of heat transfer.
3. Apply the knowledge of heat transfer in an effective manner for different applications.

Learning outcomes:

At the end of course the students will be able to:

1. Asses the performance of Refrigeration and Air conditioning and to determine the overall heat transfer coefficient for a composite slab.
2. Evaluate heat transfer through lagged pipe, concentric sphere and Drop and Film wise condensation.
3. Determine the Thermal conductivity of a given metal Rod.
4. Experiment on Transient heat conduction.
5. Measure the Heat transfer coefficient for Pin Fin, Forced convection , Natural Convection and parallel and counter flow heat exchanger.
6. Test Emmisivity , Stefan Boltzman Constant and Critical Heat flux.

Pre-Requisite

Heat transfer

ANY TWELVE EXPERIMENTS OF THE FOLLOWING

1. Refrigeration Test Rig
2. Air Conditioning Test Rig
3. Composite Slab Apparatus – Overall heat transfer co-efficient.
4. Heat transfer through lagged pipe.
5. Heat Transfer through a Concentric Sphere
6. Thermal Conductivity of given metal rod.
7. Heat transfer in pin-fin
8. Experiment on Transient Heat Conduction
9. Heat transfer in forced convection apparatus.
10. Heat transfer in natural convection
11. Parallel and counter flow heat exchanger.
12. Emissivity apparatus.
13. Stefan Boltzman Apparatus.
14. . 14. Heat transfer in drop and film wise condensation.
15. Critical Heat flux apparatus.