HEAT TRANSFER LAB

OBJECTIVES:

- To teach the students fundamentals in element of Heat Transfer & its applications so as to identify, formulate and solve the problems of Heat Transfer device designs.
- To provide students with an opportunity of direct experience of doing Heat Transfer Lab calculation so that they can understand the basics of the principles and able to make a critical assessment of industrial environment.

LIST OF EXPERIMENTS:

1. Thermal conductivity and thermal resistance of composite slab.
2. Determination of thermal conductivity of an insulating material (asbestos and saw dust) packed between three concentric tubes respectively, i.e. lagged pipe
3. Thermal conductivity of an insulating powder packed in between two concentric spheres.
4. To determine the linear temperature gradient and thermal conductivity of metal
5. Heat transfer coefficient over pin-fin when heat flows from its surface to the surroundings by Natural and forced convection.
6. Determination of heat transfer coefficient in Forced Convection.
7. To determine the heat transfer coefficient from a vertical surface losing heat by Natural or Free Convection.
8. Heat exchanger in Parallel flow and counter flow.
9. To determine the emissivity of a given surface.
10. Stefan-Boltzmann constant of radiation heat transfer.

FACILITY FOR ADDITIONAL EXPERIMENTS

To obtain the specimen temperature at any interval of time by practical and theoretical methods in unsteady state heat transfer Copper and stainless steel