

THE HEAT TRANSFER LAB

Heat transfer is the science dealing with the transfer of energy in the form of heat from one body to another as a result of temperature difference between them. The science of heat transfer provides an explanation for the different modes of heat transfer and also enables one to predict the rate at which energy transfer takes place under specified conditions. These fundamentals will be used to link the phenomenological Heat transfer processes taking place in different engineering equipment. The lab consists of equipment for the measurement of thermal conductivity, convective and radiation behavior of different types of materials and objects in various conditions. The study of heat exchangers is also a part of this laboratory where heat transfer rate of different types of flows can be measured. The laboratory is helpful to the students in understanding various typical concepts of heat transfer by doing experimentation successive to the theory class. The equipment available in this laboratory is listed are Heat exchanger – parallel flow, Heat exchanger – counter flow, Composite slab / metal rod, Critical heat flux apparatus, Emissivity apparatus, Pin fin - natural convection, Pin fin - forced convection, Insulating powder apparatus, Forced convection apparatus, Stefan – Boltzmann's apparatus, Lagged pipe apparatus.



COMPOSITE SLAB APPARATUS



INSULATING POWDER APPARATUS



EMMISSIVITY APPARATUS



CONVECTION APPARATUS



REFRIGERATION TEST RIG