

HEAT & MASS TRANSFER LAB

Name of Lab In-charge: Mr. Om Prakash Yadav

Name of technical assistant: Mr. Kapil Sharma

Course Outcomes:

After completion of course, student will be able to

CO Code	COURSE Outcome(CO)
1	Understand conduction through composite wall and Identify critical radius of insulation.
2	Experiment on pin fin in free and forced convection.
3	Understanding of thermal conductivity of fluid.
4	Acquire basics concept on Stefan's Boltzmann Law.
5	Experiment on Parallel and Counter flow heat exchanger.

List of Equipment:

1. Composite plane wall apparatus
2. Natural convection apparatus
3. Heat pipe demonstration apparatus
4. Natural and forced convection fin apparatus
5. Parallel and counter flow double pipe heat exchanger apparatus
6. Critical radius of insulating material apparatus
7. Stefan law apparatus
8. Thermal conductivity of liquid apparatus.

List of Experiments:

Sr. No.	As per AKTU	Performed/ Not performed
1	Conduction – Experiment on Composite plane wall	YES
2	Conduction – Experiment on Composite cylinder wall	
3	Conduction - Experiment on critical insulation thickness	YES
4	Conduction – Experiment on Thermal Contact Resistance	
5	Convection - Pool Boiling experiment	
6	Convection - Experiment on heat transfer from tube-(natural convection).	YES
7	Convection - Heat Pipe experiment.	
8	Convection - Heat transfer through fin-(natural convection) .	YES
9	Convection - Heat transfer through tube/fin-(forced convection).	YES
10	Convection - Determination of thermal conductivity of fluid	YES

11	Experiment on Stefan's Law, on radiation determination of emissivity, etc.	YES
12	Experiment on solar collector, etc.	
13	Heat exchanger - Parallel flow experiment	YES
14	Heat exchanger - Counter flow experiment	YES

Pictures of Labs: