



ऊष्मा एवं द्रव्यमान प्रयोगशाला

Heat and Mass Transfer Lab

Major Equipments:

- Thermal Conductivity of Metal Rod apparatus.
- Stefan-Boltzmann constant apparatus.
- Heat Transfer coefficient by Pin-Fin apparatus.
- Effectiveness of Shell and Tube heat exchanger apparatus.
- Effectiveness of Parallel and Counter Flow Heat Exchanger apparatus.
- Heat transfer coefficient by Convection heat transfer apparatus.
- Heat Transfer coefficient by drop and film wise condensation apparatus.
- Heat pipe apparatus



In Charge:

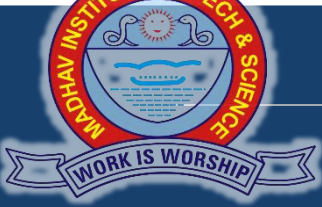
Dr. Manoj Kumar Gaur
+91-9202756229

Associate In Charge:

Prof. Subhash Chand Pal
+91-9457376705
Prof. Puneet Nema
+91-8818828354

Physical In Charge:

Er. Mahaveer Kumar Kushwaha
+91-9202756229



ऊष्मा एवं द्रव्यमान प्रयोगशाला

Heat and Mass Transfer Lab

SAFETY AND SECURITY RULES TO BE FOLLOWED IN LABORATORY:

1. Always wear shoes before entering in the lab.
2. Do not touch anything without the permission of instructor/ lab assistant.
3. Read carefully the lab manual before performing experiments.
4. Do not tamper measuring instruments.
5. Do not open the casing of the equipment.
6. Switch off the power supply to the experimental setup on completion of the experiment.
7. Maintain clean and orderly laboratories and work area.
8. Be aware of the various experiment controls (start button, stop button, speed control) for each experiments.
9. Do not leave experiments running unattended.
10. Any injuries should be reported immediately for proper care.

GENERAL INSTRUCTIONS

1. Enter in lab with closed footwear.
2. Boys should tuck in the shirts.
3. Long hair should be protected, let it not be loose specially near rotating machineries.
4. Any other machines/ equipments should not be operated other than the prescribed one for that day.
5. Power supply to your test table should be obtained only through the lab technician/ instructor.
6. Read carefully the lab manual before performing experiments.
7. Do not lean and do not be close to the rotating components.
8. Tools, apparatus and gauge sets are to be returned before leaving the laboratory.
9. Headings and detail should be neatly written:
 - (i) Aim of the Experiment.
 - (ii) Apparatus/Tools/Instruments Required.
 - (iii) Procedure / Theory / Algorithm/ Program.
 - (iv) Model Calculations.
 - (v) Neat Diagram/ Flowcharts.
 - (vi) Specification / Design Details.
 - (vii) Tabulation.
 - (viii) Graph.
 - (ix) Result / Discussions.
10. Before doing the experiment, the student should get the circuit/ program approval by the faculty in charge.
11. Experiment date should be written in the appropriate place.
12. After completing the experiments the answer to the viva voice questions should be neatly written in the workbook.



ऊष्मा एवं द्रव्यमान प्रयोगशाला

Heat and Mass Transfer Lab
(BMEL/BAUL-704)

List of Experiment:

1. Determination of Thermal Conductivity of Metal Rod.
2. Determination of Thermal Conductivity of Insulating Powder.
3. Measurement of Emissivity
4. Determination of Stefan-Boltzmann constant
5. Determination of Heat Transfer coefficient by Pin-Fin Apparatus.
6. Determination of Effectiveness of Shell and Tube heat exchanger.
7. Determination of effectiveness of Parallel and Counter Flow Heat Exchanger.
8. Determination of heat transfer coefficient by Forced Convection.
9. Determination of Heat Transfer coefficient by drop and film wise condensation method.