



KARUNYA INSTITUTE OF TECHNOLOGY AND SCIENCES
(Declared as Deemed to be University under Sec. 3 of the UGC Act 1956)
A CHRISTIAN MINORITY RESIDENTIAL INSTITUTION
AICTE Approved & NAAC Accredited
Karunya Nagar, Coimbatore - 641 114, Tamil Nadu, India

DEPARTMENT OF MECHANICAL ENGINEERING

THERMAL ENGINEERING LABORATORY

The objective of this laboratory is to provide the students a good environment to understand some very important concepts and applications in the field of thermal Engineering. Performance and heat balance calculations for thermal equipments such as refrigeration, air conditioning, heat pump, air compressor and blower are taught in the lab. This laboratory is also actively involved in research and these fundamentals will be useful to students to link the phenomenological processes taking place in HVAC (Heating, ventilation and air conditioning systems) and compressor industries.

COURSE OBJECTIVES:

To impart knowledge on

1. The performance evaluation of refrigeration, air conditioning systems and heat pumps
2. Performance evaluation of blower and compressor
3. Performance analysis of steam turbine

COURSE OUTCOMES:

After completing the course the students will be able to

1. Evaluate the performance of vapor compression refrigeration cycle
2. Evaluate performance of heat pump
3. Determine COP of air conditioning cycle
4. Evaluate performance of air blower
5. Evaluate performance of reciprocating air compressor
6. Evaluate performance of steam turbine

Facilities available for regular class work, project, research and consultancy

- ✓ Computerized Vapour Compression Refrigeration Test Rig
- ✓ Air Condition test rig
- ✓ Air Compressor Test rig

- ✓ Heat Pump Test rig
- ✓ Air blower test rig
- ✓ Boiler and Steam Turbine unit

Major equipment's



Fig. 1 Boiler and Steam Turbine Equipment



Fig. 2 Air Blower Equipment



Fig. 3 Air compressor equipment



Fig. 4 Air conditioning Equipment



Fig. 5 Refrigeration Equipment



Fig. 6 Heat Pump Equipment

Lab in charge: Dr. Gnana Sundari Kondru, M.E., Ph.D., Assistant Professor



Lab technicians: Mr. G. Lijo, Senior Mechanic

