# **Advanced Refrigeration Engineering**

# Module I

Analysis of refrigeration cycle, principles of psychrometry properties and processes, Air washer, Cooling towers, dehumidifiers, wet bulb and dew point temperatures. Multistage cycle and their optimization.

# **Module II**

Thermodynamic Properties of pure and mixed refrigerants. Eco-friendly Refrigerants vapour absorption cycle and its components. Ejector Refrigeration System, Vortex Tubes, Principle of liquefaction of gases, Dry ice manufacture, Magnetic Refrigeration System.

# **Module III**

Analysis and thermal design of Refrigeration compressor, condenser, evaporator and flow control devices; Design, Lubrication, charging and testing of refrigeration plants, defrosting capacity control, system component balancing, Design and construction details of unitary refrigeration equipment.

# **Books**

- 1. Refrigeration and Air Conditioning, C.P.Arora, Tata McGraw Hill
- 2. Refrigeration and Air Conditioning, Stoecker and Zones, McGraw Hill
- 3. Refrigeration and Air Conditioning, Domkundwar and Arora, Dhanpat Rai and Sons
- 4. Refrigeration and Air Conditioning, Manohar Prasad, East West Press
- 5. Refrigeration and Air Conditioning, P.L.Balaney