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