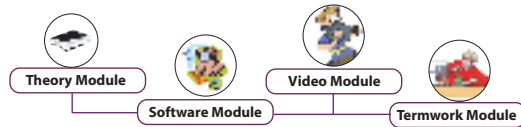


Refrigeration & Air Conditioning

Introduces Global e-Learning System in Education & Training in the form of Learning Resources with Computer Aided Instructions



System Requirement:- IBM-PC Compatible with Window-OS, 128 MB RAM/Multimedia Kit

Theory module

Features : Theory, Figures, Photographs, Animations with controller, Highlighter tool, Note creation facility, Systematic page navigation, Printing facility, Access to Videos at appropriate locations.

List of Topics

Introduction to Refrigeration



Introduction to Refrigeration, Principles of Refrigeration, Need of Refrigeration, Applications of Refrigeration, Methods of Refrigeration Ice Refrigeration, Steam and Jet Refrigeration, Household Refrigeration, Ice Plant, Heat Pump, Concept of COP, Refrigerating Effect / Unit of Refrigeration.

Refrigeration Cycles

Introduction, Reversed Carnot Cycle, Bell Coleman Cycle, Vapour Compression Cycle, Superheating, Subcooling, Multistage Vapour Compression, Cycle Need of Multistage, Cascade Refrigeration.



Vapour Absorption System



Simple Vapour Absorption System, Practical Vapour Absorption System, Electrolux Refrigeration, Lithium Bromide Absorption System, Comparison of Vapour Compression and Absorption System.

Vapour Compression System Components

Introduction, Compressor, Classification of Compressors, Types of Compressors, Condenser / Classification of Condenser, Expansion Device/Classification Evaporator.

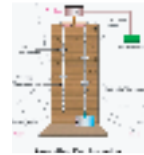


Refrigerants



Introduction/Classification of Refrigerant, Primary Refrigerant, Secondary Refrigerant, Properties of Refrigerant, Properties of an Ideal Refrigerant, Commonly Used Refrigerants, Ecofriendly Refrigerants, Concept of Ozone Layer, Distribution of Ozone Layer, Selection of Refrigerant, Green House Effect.

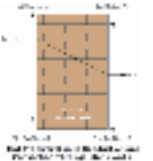
Air Conditioning and Psychrometry



Introduction, Necessity of Air Conditioning, Classification of Air Conditioning, Application of Air Conditioning, Concept of Body Comfort, Basic Vapour Compression System, Psychrometric Properties of Air, Dalton's Law of Partial Pressure Psychrometer or Types of Psychrometers, Psychrometric Chart, Psychrometric Processes, Evaporative Cooling, Different Types of Evaporative Coolers Used, Sensible Heat Factor.

Principles of Load Estimation

Concept of Heat Load, Heat Source as Outdoor, The Conduction and Convection, Heat Transfer Through Wall and Roof o Heat Source as Indoor, Calculation of Total Heating and Cooling Load Estimation, Determination of Refrigeration Capacity.



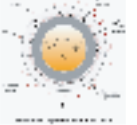
Air Distribution System



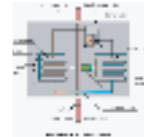
Elements of Air Distribution System, Fans - Centrifugal Fan and It's types o Axial Flow Fan and It's Types, Ducts, Different Duct Systems, Selection of Duct, Care & Precaution to be taken While Laying of Ducts, Losses in Duct, Air Distribution Outlet.

Insulation

Introduction, Types of Insulation Materials, Insulating Materials, Properties of Insulating Material, Properties of an Ideal Insulator, Methods of Applying Insulation.



Air Conditioning System



Introduction, Window Air Conditioning, Split Air Conditioner, Package Air Conditioner, Summer Air Conditioning, Winter Air Conditioning, Year Round Air Conditioning.

Software Module

Problems on Carnot Cycle, Problems on Bell Coleman Cycle, Problems on Vapour Compression Cycle, Problems on Dew point temperature, Wet bulb Temperature, Specific Volume of Air, Enthalpy of Air, Specific Humidity.



Video Module



Vapour Compression System, Air Conditioning System, Household Refrigeration, Commercial Refrigeration,