



- Introduction to HVAC
 - A. Scope
 - B. Concepts of air conditioning system
 - C. Central air conditioning system
 - D. Psychometric chart
 - E. Components of AHU and its components

- Refrigerant
 - A. Types
 - B. Evaporating and condensing properties
 - C. Refrigerant pipe sizing methods

- Cooling & heating load estimations
 - A. Basics of heat transfer in building
 - B. Understanding of outdoor & indoor conditions
 - C. Sources of heat gain
 - D. Heat loss calculations

- Design of air distribution system
 - A. Components of air distributing system

- Design of ventilation system
 - A. Introduction
 - B. Restaurant and kitchen ventilation system design

- Chilled water system design
 - A. Introduction
 - B. Classification
 - C. Chiller arrangements, cooling tower arrangements, types of cooling tower & expansion tank connections.
 - D. Pumps required in chilled water system
 - E. Chilled water system pipe designing

- Equipment selection
 - A. AHU & FCU classification and selection
 - B. Package unit selection DX-Chiller selection
 - C. Cooling tower selection mixed air temperature calculation.
 - D. HRF for open & closed compressor.



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- E. Expansion tank selection.

 - Erection of equipments
 - A. Detailing & Installation of Chillers
 - B. Detailing & Installation of Air handling units
 - C. Detailing & Installation of Package units
 - D. Detailing & Installation of Fan coil units.
 - E. Detailing & Installation of Condensing units

 - Estimation of systems
 - A. Understanding the tendering requirements
 - B. Quantity take off
 - C. Preparing inquiry for suppliers & finalizing the suppliers
 - D. Final billing & quotations finalization

 - Drafting of HVAC systems
 - A. introduction
 - B. preparation of floor drawings

 - Project work
 - Load calculation, Duct designing & Equipment selection