



An ISO 9001 - 2008
Organization



ISO/IEC-17025:2005 NABL ACCREDITED FOR NDT
(Dept. of Science and Technology, Government of India)



HVAC (HEATING VENTILATION AND AIR CONDITIONING)

1. INTRODUCTION

2. HEAT

Types of Heat

- a. Sensible Heat
- b. Latent Heat

Mode of Heat Transfer:

- c. Conduction
- d. Convection
- e. Radiation

3. VENTILATION

- a. Introduction
- b. Calculation of CFM
- c. Calculation of ACPH
- d. Calculation of CMH
- e. Types of Ventilation
- f. Positive Pressure
- g. Negative Pressure
- h. Types of Ventilation Fans

4. AIR-CONDITIONING

- a. Properties of Air
- b. Dry bulb Temperature
- c. Wet bulb Temperature
- d. Relative Humidity
- e. Dew Point Temperature
- f. Ton of Refrigeration

5. TYPES OF AIR-CONDITIONING

Direct System

- a. Window AC
- b. Split AC
- c. VRF System

Indirect System

- d. Air Handling Unit
- e. Fan Coil Unit
- f. Chilled Water System

6. HEAT LOAD CALCULATION

- a. Glass
- b. Wall
- c. Roof & Floor
- d. Partition
- e. Ceiling
- f. Lighting
- g. Electronics Equipment
- h. Occupancy

7. SELECTION OF INDOOR & OUTDOOR UNITS

8. AIR TERMINAL SYSTEM

- a. Diffuser
- b. Types of diffuser
- c. Calculation of neck size
- d. Placement of diffuser
- e. Grill
- f. Calculation of size of grill
- g. Types of grill

9. AIR DISTRIBUTION SYSTEM

- a. Duct
- b. Types of duct
- c. Designing of duct
- d. Flexible Duct
- e. Plenum Box
- f. Calculation of size of plenum box

10. AIR DISTRIBUTION SYSTEM

- a. Chiller
- b. Cooling Tower
- c. Pipe Design
- d. GPM Calculation
- e. Pump Head Calculation

11. BILL OF QUANTITY PREPARATION

12. DUCT MATERIAL CALCULATION

13. PIPE MATERIAL CALCULATION

14. STATIC PRESSURE CALCULATION

15. SPECIFICATION OF HVAC

16. SUPPORT AND ACCESSORIES IN HVAC

17. TESTING AND COMMISSIONING

18. SOFTWARE

- a. Auto cad - 2D Design
- b. Mc - quay duct sizer
- c. Mc - quay pipe sizer
- d. Heat Load Excel Sheet
- e. Cooling Load Calculation
- f. HAP

19. REVIT -3D DESIGN

20. FINAL PROJECT

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