PLUMBING & FIREFIGHTNING COURSE INDEX

PLUMBING DESIGN ENGINEERING & DRAFTING

INTRODUCTION

- Basics, scope of work, objectives
- Plumbing Standards and codes
- Role of Plumbing Designer and site engineer
- Fundamental of Plumbing System (Water Supply and Drainage System)
- Plumbing Fixtures, Fittings, valves and Appliances
- Installation of Fixtures, Fittings, valves and Appliances

WATER SUPPLY SYSTEM

- Requirements of Water Supply system (Hot and Cold Water system)
- Fundamental of water supply
- Sources of water, Mains of water, Chemistry of water
- Physical characteristics of water and Disinfection of water

COLD AND HOT WATER SYSTEM

- Properties of Tank and material of tank
- Classification & Installation of tank
- Cold water storage tank calculations based on demand
- Hot water Generation and storage
CENTRALIZED & NON CENTRALIZED HOT WATER SYSTEM

- Centralized & Non centralized hot water system
- Hot water Cylinders
- Selection and sizing of Boiler
- Pressurized hot & cold water System
- Hot water Pressurization System Domestic & Commercial
- Hot water Cylinder Sizing
- Cold water to High rise Buildings
- Pressure Pneumatic Boosting

COLD & HOT WATER PIPE SIZING

- Specification of Pipes
- Classification of Pipes – Material
- Water Supply Fixture Loading Unit – WSFU
- Flow rate calculations
- Pipe Sizing as per Standards
- Pipe Routing (Distribution system)

PLUMBING EQUIPMENTS

- Pumps
- Boiler and Gasser
- Solar Heaters
- Water Storage Tanks
- Jacuzzi
- Grease Interceptor

PLUMBING PUMPS

- Description of Pumps
- Classification of pumps
- Head Loss Calculations – friction (Hazen William Formula)
- Transfer Pump Calculations
- Booster Pump Calculations

CONTACT US: +917680860017/41

D.NO. 16-2-835/A/1, First Floor above Welcare Pharmacy Saidabad Main Road, Quadria Masjid, Hyderabad-59 India (T.S) www.ibse.co.in
- Selection of Pump

**DRAINAGE & SANITARY SYSTEM**
- Introduction to Drainage System
- Sanitary System Soil & Waste Water System
- Traps used in Drainage System
- Storm Water System
- Basement Drainage System
- Pipe Sizing as per standards
- Vent pipe system
- Pipe routing – Distribution
- Man Hole Methodology
- Man hole Calculations
- Back drop manholes
- Septic Tanks
- Sizing of Septic tanks based on Fixtures
- Pump Calculations for Septic Tank

**FIREFIGHTNING DESIGN ENGINEERING & DRAFTING**
- Introduction of Fire Fighting Systems
- Standards and codes used in Fire Fighting System
- Classification Fire Fighting system
- Fire Extinguisher System
- Sprinkler System – Dry & Wet Riser Systems
- Pipe Sizing Sprinkler system
- Fire Fighting Pumps – Main, Diesel & Jockey Pumps
- Selection & Sizing of Pump
- Introduction of Fire Hydrant System

**Detailed Schematic design Layouts (Drafting)**
- Basics of CAD,
- Preparation Symbols & Legends of Plumbing & Fire Fighting System
- Preparation of detail layouts including sectional details wherever required
- Representation of Design drawing

**CONTACT US:** +917680860017/41

D.NO. 16-2-835/A/1, First Floor above Welcare Pharmacy Saidabad Main Road, Quadria Masjid, Hyderabad-59 India (T.S) [www.ibse.co.in](http://www.ibse.co.in)
• Preparation of Single line Schematic & isometric Drawing of Water Supply Piping, Drainage Disposal Pipe Routing, Fixture, Equipment’s and other required sections.
• Coordination with other services like HVAC, EE, ELV layouts
• Preparation of shop drawings based on the tender drawings issued
• As built drawings shall be prepared and handed over to client’s representative

ESTIMATION & COSTING OF PROJECTS

• Estimation & tendering requirements
• Bill of Quantities (BOQ) from shop drawing
• Preparation of O&M manuals
• Preparation of Testing & Commissioning Reports
• Preparation of inquiries, & preparation of Final Billings
• Preparation of approvals from consultants and authorities

PROJECT MANAGEMENT

• Estimation and tendering of projects
• Procurement Process
• Preparation of material submittals
• Bill of quantity’s (BOQ)
• Preparation of O&M manuals
• Preparation of testing and commissioning reports
• Preparation of installation approvals from consultants and authorities

PROJECT WORKS

• 1 minor and 1 major project

CONTACT US: +917680860017/41 D.NO. 16-2-835/A/1/1, First Floor above Welcare Pharmacy Saidabad Main Road, Quadria Masjid, Hyderabad-59 (T.S) www.ibse.co.in