

**CONSTRUCTION SKILLS TRAINING INSTITUTE**

**BASIC COURSE SYLLABUS**

**PLUMBING & SANITARY**



**CONSTRUCTION GROUP  
LARSEN & TOUBRO LIMITED**

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**SYLLABUS FOR PLUMBING & SANITARY TRADE****CONTENTS**

1. Introduction to L&T, ECCG
2. Introduction to the Trade
3. Introduction to Trade Glossary
4. Introduction to Tools & Equipment
5. Documentation
6. Materials
7. Testing
8. Safety
9. Practice Modules
10. Introduction to Trade on Job Site
11. Overall Revision
12. Final Testing

**SYLLABUS FOR PLUMBING & SANITARY TRADE**

**Duration at Skills Training Institute : 600 Hrs**  
**(Spread in three months)**

**1. Introduction to L&T / ECCG : 3 Hrs**

**2. Introduction to the Trade : 3 Hrs**

**3. Introduction to Trade Glossary : 6 Hrs**

**4. Introduction to Tools & Equipment : 12 Hrs**

- Hand tools of the trade
- Stock and dies
- Pipe vice
- Bench vice
- Blow lamp stove
- Ferrule m/c
- Bending m/c

**5. Documentation : 24 Hrs**

- Glossary of terms
- Basic engineering drawings / sketches
- Info sheets / job cards
- Time sheets
- Record book / log book
- Store requisition

**6. Basic Materials : 16 Hrs**

- Galvanized pipes
- Cast iron pipes
- PVC pipe
- SW pipes
- Fittings
- Fixtures
- Solder/Lead

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- 7. Testing** **16 Hrs**
- Water test
  - Pressure test
  - Smoke test
  - Ball test
- 8. Safety** **: 24 Hrs**
- Health & Safety
  - Eye protection
  - Hand & Foot protection
  - Overall personal safety
  - Moving
  - Lifting
  - Carrying
  - Stacking
  - Working at heights (Ladders / scaffold)
  - Electricity
- 9. Practice Modules** **: 348 Hrs**
- **FL. Taps & Valves** **: 24 Hrs**
    - Understanding working principles
    - Understanding methods of testing
    - Use of basic tools and bench vice
    - Selection of taps and valves
    - Dismantling taps & valves
    - Inspecting glands, washer
    - Assembling taps and valves in position
    - Ensuring no leaks when tested
    - Safety
    - Site tidiness

- **F2. Cutting / Threading / Bending GI Pipes** : 48 Hrs
  - Use of hand tools
  - Use of cutting tools
  - Use of bending machine
  - Use of pipe Dies & Vice
  - Lubrication
  - Understanding basic sketches & drawing
  - Mark out and cut to size
  - Threading and bending
  - Awareness of tolerance
  - Safety
  - Site tidiness
  
- **F3. Jointing / Assembling GI Pipes** : 48 Hrs
  - Understanding types of pipes & fittings
  - Understanding methods of joining
  - Use of chain wrench
  - Interpretation of sketches & drawings
  - Joining and assembling GI pipes with supplied fittings
  - Importance of line & level
  - Awareness of tolerance
  - Safety
  - Site tidiness
  
- **F4. PVC Pipe Bending** : 24 Hs
  - Understanding types of PVC pipes & fittings
  - Understanding methods of bending
  - Use blow lamp & flame control
  - Interpretation of sketches & drawings
  - Mark out and cut to size
  - Bend PVC pipes
  - Importance of line & level
  - Awareness of tolerance
  - Safety
  - Site Tidiness

- **F5. PVC Jointing** : 24 Hrs
  - Understanding types of PVC pipe joints
  - Understanding methods of jointing
  - Use of hand tools
  - Use of beveling reamer
  - Use of blow lamp & flame control
  - Application of solvents
  - Assembly methods
  - Interpretation of sketches & drawings
  - Join PVC pipe
  - Importance of line & level
  - Awareness of tolerance
  - Safety
  - Site Tidiness
  
- **F6. S.W Pipe laying / jointing** : 18 Hrs
  - Understanding types of SW pipe
  - Understanding methods of laying / jointing
  - Use of hand tools
  - Use of sight rails
  - Assembly methods
  - Interpretation of sketches & drawings
  - Importance of gradient / alignment
  - Understanding self cleansing gradients
  - Join SW pipe
  - Testing methods
  - Awareness of tolerance
  - Safety
  - Site Tidiness

- **F7. Cast Iron Cutting / Jointing** : 18 Hrs
  - Understanding methods of cutting
  - Use of hand tools
  - Interpretation of sketches & drawings
  - Importance of alignment
  - Understanding methods of jointing
  - Use of chain wheel
  - Introduction to gasket
  - Handling lead
  - Testing methods
  - Awareness of tolerance
  - Safety
  - Site Tidiness
  
- **F8. Alkathene flanging / Jointing** : 18 Hrs
  - Understanding Alkathene Flange forming tools
  - Assembly methods
  - Types of fittings
  - Connecting Alkathene to G.I. pipe
  - Interpretation of sketches & drawings
  - Importance of alignment
  - Understanding methods of jointing
  - Testing methods
  - Awareness of tolerance
  - Safety
  - Site Tidiness
  
- **F9. Making service connections** : 24 Hrs
  - Understanding service connections
  - Understanding ferrules, water meter
  - Introduction local authority by-laws
  - Connect cast iron main with domestic service
  - Using ferrule, valve and water meter

- Testing methods
  - Safety
  - Site Tidiness
- **F10. Connecting house sewer to main** : 24 Hrs
    - Understanding sewer connection to main
    - Understanding interceptor traps
    - Introduction local authority by-laws
    - Connect interceptor manhole with main sewer using SW pipes
    - Testing methods
    - Safety
    - Site Tidiness
  - **F11. Fixing Sanitary Fixtures** : 24 Hrs
    - Understanding, handling, lifting sanitary fixtures
    - Care in fitting and leveling
    - Introduction local authority by-laws
    - Fix low level water closet
    - Connect to soil stack, seal connections
    - Testing methods
    - Safety
    - Site Tidiness
  - **F12. Installing Water Pump, connecting supply pipe** : 24 Hrs
    - Understanding handling water pump
    - Understanding working principle of Water pump and foot valve
    - Methods of connections
    - Connect pump to pump base
    - Connect supply pipes, foot valves etc.
    - Care in fitting and leveling
    - Introduction local authority by-laws
    - Testing methods

- Safety
- Site Tidiness

**F13 Skill Consolidation Installation**

Work Project : 48 Hrs

- Interpretation of working drawings
- Types of sanitary fixtures and appliances
- Storage cistern, tanks
- Understanding local authority by-laws
- Distribution water supply pipe connections
- Position install sanitary fixtures and appliances
- Testing methods
- Safety
- Site Tidiness

- 10. Introduction to Trade on Job Site : 64 Hrs**
- 11. Revision : 60 Hrs**
- 12. Final Testing & Evaluation : 24 Hrs**