

## Need

Skilled human resource is the prerequisite for the industrial progress. Owing to rapid growth of construction industry in Pakistan, the demand of plumber is increasing day by day. That is why the "Plumbing" trade has already been introduced in VTIs to cope with the unmet demand of plumbers.

## Objective

To train and prepare a student to become a skilled plumber and to earn a respectable living.

## Skill Requirements

After the completion of this course, the pass-out will be able to perform the following tasks.

1. Install, remove, check, repair, replace or service different types of bathrooms and kitchen fixtures.
2. Scrutinize the plumbing circuit of buildings to rectify the faults and to clear stoppages.
3. Leak detection in water, gas pipes and in sewerage system.
4. Couple the two different sizes of pipes of same and different materials.
5. Installation and troubleshooting of water pumps i.e. donkey pump, mono-block pump, and ejector pumps.
6. Laying the sewerage line for the waste water of building.
7. Use of pipe cutter, pipe bender, pipe wrenches, threading tools, drilling machine and other tools etc, safely and correctly.
8. Make leak proof joints by using Teflon tape, hemp, yarn and caulking.

## **Knowledge Requirement**

After the completion of this course, the trainee would have the knowledge of following:

1. Proper selection, use and safety measures of tools and equipment used in plumbing.
2. Basic mathematical calculations.
3. The specifications of tools used in plumbing.
4. Different pipes, their materials, properties and usage.
5. Personal safety and safety precautions in handling equipment, tools, supplies and materials.
6. Functioning and fault finding techniques of different plumbing circuits.
7. Types and functions of domestic water pumps, electric and gas geysers.
8. Reading and understanding of basic plumbing drawing and symbols used in plumbing / sanitary installation.
9. Types of plumbing fixtures, fittings, supplies, sealants and leak proof materials.
10. Types of threads used in pipes and fittings.
11. Operation of various valves, and their usage.
12. Measurement with micrometer, vernier caliper, and tape.

## **Entry Level**

- Primary preferring Middle
- Admission is subject to passing a general aptitude test.

## **Class Size**

- 25-28 Trainees

## Training Duration / Scheme

- |    |  |  |
|----|--|--|
| a) | VTI Training                               | -6 months (theory & practical)   |
| b) | On job training                            | -2 months  |
| c) | No. of hours per week                      | -3   |
| d) | Ratio (Theory to Practical)                | -20:80   |
| e) | Training material                          | -Trainee manual  |
| f) | Medium of instructions                     | - Urdu   |
| g) | Method of instructions                     | - Lectures, demonstration & practical  |
| h) | Tests                                      | - Quizzes, Forthrightly, final   |
| i) | Evaluation                                 | - Attendance, sessional, final test, OJT   |
| j) | Qualification and Training level of staff: |  |
|    | -Jr.Instructor                             | - Diploma in Civil Engineering or Certificate in Plumbing with 5 years experience. |
|    | - Lab Assistant                            | - Certificate in Plumbing with 2 years experience.                                 |

## Employability

The pass outs of this course would be employed as

- Plumber with construction companies.
- Plumber in government departments, factories, plazas, residential colonies and in other building complex.
- Salesman at sanitary/pipe stores or sales agents of different manufactures of plumbing materials.
- Self employment.