

Unit



Introduction to Plumbing

INTRODUCTION

The plumbing and sanitary system is an essential part of every house or building. Proper planning and designing of plumbing system is crucial as it takes care of the hygiene requirements of the occupants. It has been reported that about 8 per cent of the construction cost of a building is marked for plumbing and sanitary work.

A plumber's job role consists of installation, repair, maintenance and servicing of plumbing fittings and fixtures. Besides having a thorough understanding of the mechanisms required for performing various tasks, a plumber should be laborious, have effective communication skills and be a result-oriented worker with a positive attitude.

ROLE OF PLUMBING

As you may be aware, water is supplied to a house or a building from storage tanks through pipes. Similarly, the waste water from kitchen and washrooms is drained out with the help of pipes. Any building, be it a residential,

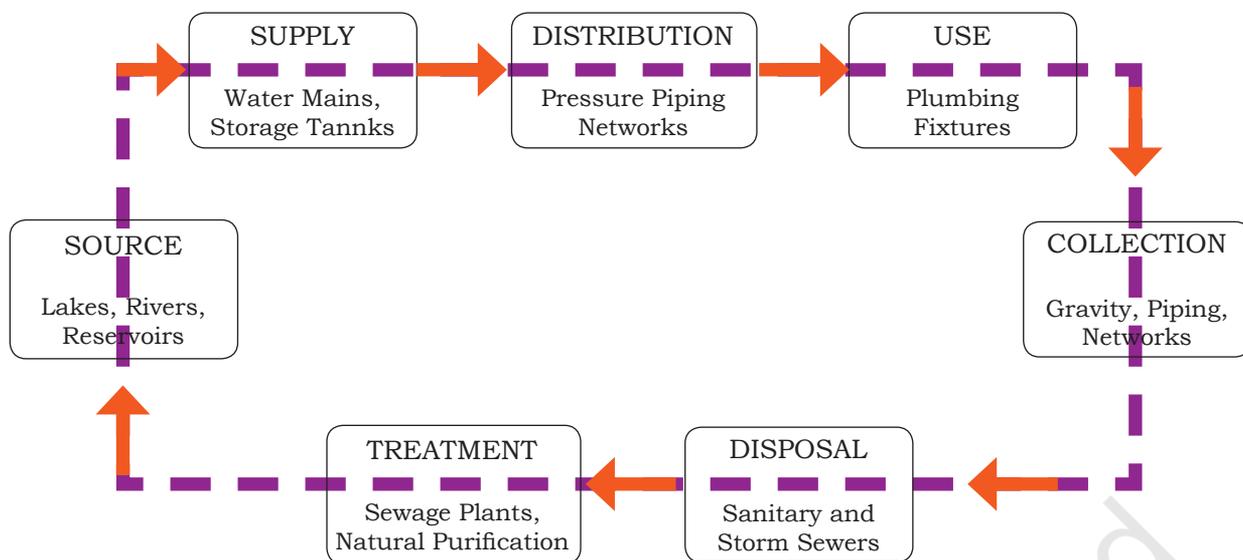


Fig. 1.1: Plumbing cycle

commercial or industrial, cannot function properly without having plumbing and sanitary arrangements in place. It is, therefore, important to have regular and adequate water supply and a proper system for the disposal of waste water. Plumbing cycle refers to a mechanism through which water is taken from a source, then supplied to the users, and finally waste water is collected and recycled to the source after proper treatment (Fig. 1.1).

Plumbing and pipe-fittings play a major role in the construction of all types of buildings. An efficient plumbing work keeps the atmosphere free from bad smell and ensures better sanitation.

PLUMBING

The skill and art that is needed to transport water from the source to the users, then to the treatment plants, and finally supplying the treated water to the users through a distribution system is known as **plumbing**. It is a system of pipes and fittings that carry water.

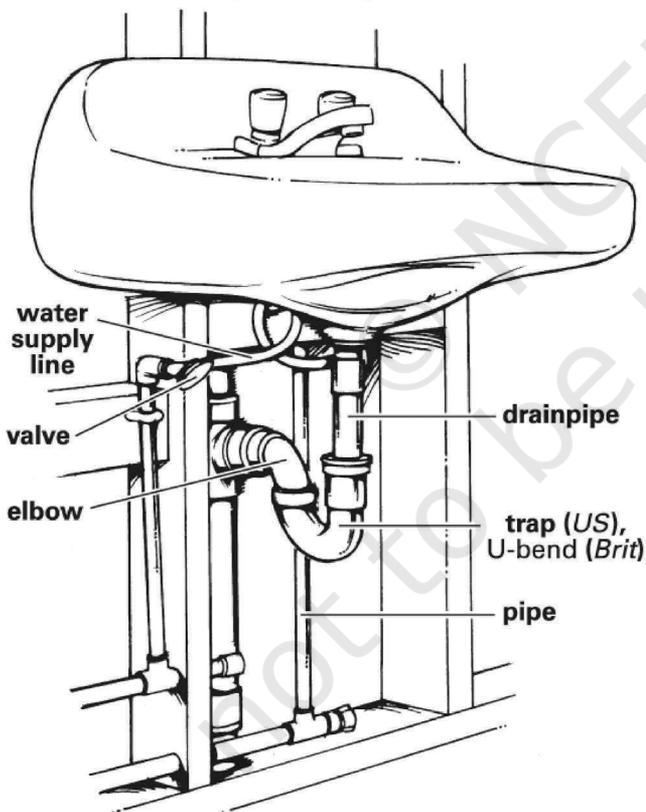
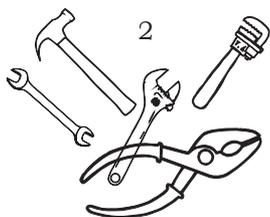


Fig. 1.2: Washbasin and its components



SANITARY WORK

Sanitary work refers to carrying the waste water to the waste disposal system (sewerage system) through plumbing fixtures.

The plumbing installation is governed by the regulations and rules adopted by the concerned municipal corporations or committees of different States and Union Territories. Plumbing and sanitation work thus plays an important role in the construction of a building.

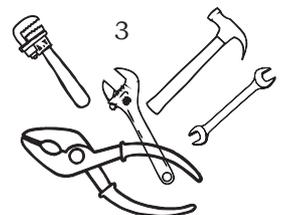
A plumbing system consists of pipe fittings and appliances used for water supply and drainage, as you see the fitting for the washbasin in Fig. 1.2. In this system, different pipes are used for different purposes. The plumbing system includes:

- water supply, galvanized iron (or plastic) pipes and fixtures;
- soil pipes and fixtures;
- sanitary drainage system; and
- rainwater drainage system.

For an efficient plumbing system, it is important that standard plumbing and sanitary material, as per the Bureau of Indian Standards (BIS), are used. It is also important that quality workmanship, practical checks and supervision are ensured during plumbing and sanitary work. It helps in getting the best out of the skilled and unskilled labour.

Before starting the work, the plumber must keep the following points into consideration.

1. Water supply system: sources of clean and potable water
2. Plumbing fixtures and pipes: knowledge about different requirements and specifications
3. Sanitary and drainage system: knowledge about sewerage system
4. Rainwater drainage system
5. Plumbing drawing and their uses: role of plumbing drawing



Practical Exercises

Activity 1

Observation of the plumbing system in your school.

Material Required

1. Pencil or Pen
2. Notebook

Procedure

1. Identify the plumbing items fitted in the school.
2. Make a list of the identified plumbing items.
3. Identify the material used in plumbing fittings and fixtures.

Activity 2

Observation of the plumbing system in your house.

Material Required

1. Pencil or Pen
2. Notebook

Procedure

1. Identify the plumbing items fitted in the house.
2. Make a list of the identified plumbing items.
3. Identify the material used in plumbing fittings and fixtures.

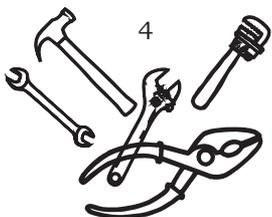
Check Your Progress

A. Answer the following questions

1. Define the plumbing system.
2. Why is plumbing system necessary for all types of building?
3. What are the main components of a plumbing system?

B. Fill in the blanks

1. Every residential building should have regular and adequate _____ supply.
2. Sanitary work refers to carrying the waste water to the waste disposal system through _____.
3. Water is supplied through _____ and fittings.
4. A plumber is responsible for _____, _____, _____ and _____ of pipes and sanitary fixtures.



C. Mark the correct option

1. The skill and art of transporting water from the source to the treatment plants and then to the end user is known as_____.
 - (a) masonry
 - (b) construction
 - (c) plumbing
 - (d) concreting
2. From the total building construction, the appropriate cost percentage usually marked for plumbing and sanitary work is_____.
 - (a) 12 per cent
 - (b) 10 per cent
 - (c) 5 per cent
 - (d) 8 per cent
3. Plumbing and pipe fittings play a major role in the construction of buildings like
 - (a) Residential
 - (b) Commercial
 - (c) Industrial
 - (d) All of the above
4. Which of the following is the correct order of stages in a plumbing cycle?
 - (a) Supply, Distribution, Disposal, Treatment
 - (b) Disposal, Distribution, Supply, Treatment
 - (c) Supply, Treatment, Disposal, Distribution
 - (d) Treatment, Supply, Disposal, Distribution

