

# JOB ROLE –PLUMBER (GENERAL II)

Sector – Plumbing  
(Qualification Pack Code: PSC/Q0110)



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# UNIT 01: PLUMBING AND RELATED BASIC TERMS

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# Session Objectives

The students will be able to:

- Describe the plumbing and its related basic terms.

# Introduction

Plumbing is a skill which helps in the installation of bathroom and kitchen fittings, laying of new pipelines in buildings and identifying the defects in pipeline. The plumbing system includes two main systems—the water supply and the drainage system. In order to understand plumbing and its work process, it is important to understand some key terms.



# Plumbing fixtures in the manufacturer's catalogue

- **Air gap:** The distance between the lowest point of a water inlet or pipe to a tank and the overflowing level of the tank.
- **AC pipes:** Asbestos-Cement pipe used in water distribution systems.
- **Appliance:** A container or apparatus in which water is heated, treated or measured, or in which it is utilized before passing to waste.
- **Auger:** A tool having a rotating helical screw blade used for drilling a hole.
- **Available head:** The head of water available at the point of consideration due to main's pressure or overhead tank or any other source of pressure.

- **Backflow:** It is an unwanted flow of water in the reverse direction. It leads to wastage of water and it is due to leakage or defect in the system.
- **Backflow prevention device:** This device is fitted in such a way that allows water to flow in one direction but never in the opposite direction. Its sole job is to prevent drinking water from being contaminated due to backflow.
- **Back siphonage:** The flowing back of used contaminated or polluted water from a plumbing fixture or vessel into a water supply pipe due to a reduced pressure in such a pipe.
- **Bathroom vanity:** It can be defined as the combination of the bathroom sink or basin and the storage that surrounds it.
- **Bidet:** It is a special plumbing fixture that allows a person to use water to wash their genitals, anus, and inner buttocks after using the bathroom.

- **Branch:** Any part of the piping system other than a main pipe is known as branch.
- **Branch soil pipe (BSP):** A pipe connecting one or more soil appliances to the main soil pipe.
- **Branch soil waste pipe (BSWP):** A pipe connecting one or more soil and/or waste appliances to the main soil waste pipe.
- **Branch ventilating pipe (BVP):** A pipe, one end of which is connected to the system adjacent to the trap of an appliance and the other to a main ventilating pipe or a drain-ventilating pipe. It is fitted to prevent loss of water seal from a trap, and also provides ventilation for the branch waste pipe.
- **Branch waste pipe (BWP):** A pipe connecting one or more waste appliances to the main waste pipe.
- **Building drain:** The building (house) drain is the part of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste, and other drainage pipes inside the walls of the building.



- **Building sewer:** The building (house) sewer is the part of the horizontal piping of a drainage system which extends from the end of the building drain and which receives the discharge of the building drain and carries it to a public sewer, private sewer, individual sewage-disposal system, or other point of disposal.
- **Burr:** It is a raised edge or a small piece of material remaining attached to a work piece after a modification process.
- **Cistern:** A tank for storing water, especially one supplying taps or as part of a flushing toilet
- **Cleaning eye:** When removable plug is fitted with removable cover into the pipe fitting as eye opening and clearing of obstructions is done through this opening, it is called access eye or cleaning eye.
- **Couplers:** When we connect two pieces of uniform or varying diameter pipe, a piece of pipe known as coupler is used for joining these pipes.
- **Crown of trap:** The top-most point of the inside of a trap outlet.

- **Diameter:** Unless specifically stated, the nominal diameter of pipe fittings.
- **Direct tap Notes:** A tap or faucet, which is connected to a supply pipe and subject to pressure from the water main.
- **Domestic purposes:** All purposes incidental to the occupation of a dwelling.
- **Down take tap or faucet:** A tap or faucet connected to a system of piping, not subject to water pressure from the water main.
- **Drain water outlet:** Any pipe which conveys discharges from sanitary appliances in a drainage system.
- **Drain ventilating pipe (DVP):** It is a pipe installed to provide flow of air to or from a drain to prevent undue concentration of foul air in the drain.
- **Dwelling:** It is a building — used, constructed or adapted for use, wholly or principally for human habitation. It may include garages, other outhouses, etc.

- **Escutcheon:** A flat piece of metal for protection and often ornamentation, around a keyhole, door handle, or light switch.
- **Fitting:** It refers to the fixtures in the plumbing system to join straight pipes or any section of tubes.
- **Fixture unit:** A quantity, in terms of which the load producing effects on the plumbing system of different kind of plumbing fixtures are expressed on some randomly chosen scale.
- **Flange:** It is a plate or ring to form a rim at the end of a pipe when fastened to the pipe. A flange joint is a connection of pipes, where the connecting pieces have flanges by which the parts are bolted together.
- **Float operated valve:** Ball valves or ball taps and equilibrium by valves operated by means of a float.
- **Floor area of a building:** The area of a horizontal section taken at the plinth or floor level of any storey of a building, inclusive of all projecting and overhanging parts of the external walls, and of such portions of the partition walls to the building.

- **Flushing cistern:** It is a cistern with a device for rapidly discharging the contained water. It is used in connection with a sanitary appliance for the purpose of cleansing the appliance and carrying away its contaminated contents into a drain.
- **Fracture:** Due to heavy pressure or clogging, there is broken or cracked portion in plumbing pipes, fixture or fittings, due to which leakage takes place.
- **Gasket:** Mechanical seals, generally ring-shaped and fitted for sealing flange joints.
- **General washing place:** A washing place provided with necessary sanitary arrangement and common to more than one tenement, that is a multi-occupancy building of any sort.
- **Horizontal pipe:** Any pipe or fitting which makes an angle of more than  $45^\circ$  with the vertical.
- **Induced siphonage :** The extraction of water from a trap by a siphonage set up by the reduction of pressure at the outlet of the trap.

- **Insanitary:** Contrary to sanitary principles or injurious to health.
- **Main soil pipe (MSP):** A pipe connecting one or more branch waste pipes to the drain.
- **Main soil waste pipe (MSWP):** A pipe connecting one more branch soil waste pipes to the drain.
- **Main ventilating pipe (MVP):** A pipe which receives a number of branch ventilating pipes.
- **Main waste pipe (MWP):** A pipe connecting one or more branch.
- **Nipple:** It is a piece of pipe having thread at both sides, and could be used for short extension of plumbing lines.
- **O-ring:** An O-shaped ring that is attached to the faucet to prevent water from oozing out of the spout.
- **Period of supply:** The period of the day or night during which water supply is made available to the consumer.

- **Pipe ears:** Two wings cast integrally with the pipe socket provided with holes to take fixing nails or screws.
- **Pipe systems:** It is an assembly of various components put together with a method of joints, to transport water from the source to destination. Their are following pipe systems:
  - 1.**One-pipe system** — The plumbing system in which the waste connection from washbasins, baths, and the soil pipe branches are all collected into one main pipe which is connected directly to the drainage system. Gully traps and waste pipes are completely dispensed with but all the traps of water closets, basin, etc., are completely ventilated to preserve water seal.
  - 2.**Two-pipe system** — It is a discharge pipe system comprising two independent discharge pipes, one of which conveys soil directly to the drain, the other conveying waste water to the drain through a trapped gully. The system may also require ventilating pipes.
  - 3.**Single stack system** — One-pipe system without trap ventilation pipe work.

- **Plinth:** The portion of a structure between the surface of the surrounding ground and surface of the floor, immediately above the ground.
- **Plumbing:** It is the pipes, fixtures and other apparatus inside a building for bringing in the water supply and removing the liquid and water-borne wastes; It is the installation of the foregoing pipes, fixtures and other apparatus.
- **Plumbing system:** It shall include the water supply and distribution pipes; plumbing fittings and traps; soil, waste, vent pipes and anti-siphonage pipes; building drains and building sewers including their respective connections, devices and appurtenances within the property lines of the premises and water-treating or water-using equipment.
- **Plunger:** A tool for cleaning normal blockage in drain and pipe, washbasin, etc.
- **Potable water:** Water which is satisfactory for drinking, cooking and domestic purposes and meets the requirements of the Bureau of Indian Standards (BIS).

- **Premises:** It shall include passages, buildings and lands of any tenure, whether open or enclosed, whether built on or not, and whether public or private.
- **Public building:** A building used or intended to be used either ordinarily or occasionally as a church, temple, mosque or any place of public worship, *dharamshala, college, school etc.*, or any other place of public assembly.
- **Sealing rings:** It is a type of gasket used in connecting any fixture or joints to create leak proof condition.
- **Self-siphonage:** The extraction of water from a trap by siphonage, setup by the momentum of the discharge from the sanitary appliance to which the trap is attached.
- **Service pipe:** The pipe that runs between the distribution main in the street and the riser in case of a multi-storeyed building, or the water in case of an individual house, and is subjected to water pressure from such a main.
- **Soil pipe (SP):** The pipe used to carry waste from the toilet and waste water.



- **Spindle:** It is a metal unit that provides the link between the handle and the stem washer.
- **Stack:** The main vertical discharge or ventilating pipe.
- **Stopcock:** A cock fitting in a pipeline for controlling the flow of water.
- **Stop tap or faucet:** It includes stop cock, stop valve or any other devices for stopping the flow of water in a line or system of pipe at will.
- **Storage cistern:** A cistern for storing water.
- **Stuffing box:** It is an assembly which is used to house a gland seal. It is used to prevent leakage of fluid, such as water or steam, between sliding or turning parts of machine elements.
- **Sullage:** The waste water generated from bath and kitchen (but not the waste water from toilets known as excreta).
- **Supply pipe:** The pipes which lead from the distribution main of water supply to the plumbing system of the house.

- **Supports:** Devices for supporting and securing the pipe and fittings to the walls, ceilings, floors or any extra constructed unit
- **Trap:** A fitting or device in a P, U, S or J-shaped type. Traps are fitted near a plumbing fixture. The trap bend is fitted to prevent sewer gases from entering the building. It is so designed and constructed as to provide, when properly vented, a liquid seal which will prevent the back passage of air without materially affecting the flow of sewage or water through.
- **Vertical pipe:** Any pipe which is installed in a vertical position or which makes an angle of not more than  $45^\circ$  with the vertical.
- **Warning pipe:** An overflow pipe so fixed that its outlet, whether inside or outside a building, is in a visible position where the discharge of any water from it can be readily seen
- **Washout valve:** A device located at the bottom of the tank for the purpose of draining a tank for cleaning, maintenance, etc.
- **Water line:** A line marked inside a cistern to indicate the highest water level at which the supply valve should be adjusted to shut off.

# Summary

- In this session, we have learnt about related basic term about plumbing such as Air gap, Auger, AC pipes, Trap, Water line etc,. For proper installation of plumbing fixture and fitting , a plumber must well known about these.

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