**Assignment No: 2**

**Hidayat Ullah Shah ID: 7743 Section: C**

**Q NO:1**

**Answer:**

**Soil Pipes:** Soil Pipe is a pipe that conveys sewage or wastewater reliably either from the toilet or sinks to a soil drain or sewer. Needless to say, there are many pipes within your home that carry water, but there are just as many that carry waste from your property.

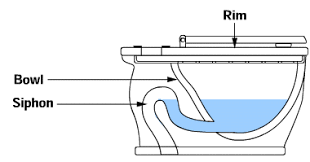
As the place to go for every pipe requirement, you’ll discover a wide range of Soil Pipes at Total Pipeline Systems.

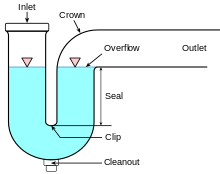
Within your home, there are specific pipes to remove waste from your home and if you’re to maintain them, you need to know the difference between Soil Pipes and Waste Pipes.

**Anti-Siphon pipes:**

An extra pipe connected to the outlets of toilet seats of all the floors, the other end of which is exposed to atmosphere is called anti-syphonage pipe. These are provided to maintain water seal so that foul gases of the sewer line do not find entry in to the toilet/ bathrooms.

If we look into a toilet seat we find some water at the bottom, which remains there even after flushing. The seats are designed with a trap so that the water remains in the seat. The water is maintained to prevent entry of foul gases from the toilet pipe/ soil pipe/ sewer lines into the toilet room. This is called water seal.





When one of the toilets in the upper floors is flushed, a lot of water gushes down the toilet line in the form of a water column with accelerating speed due to gravity. This fast moving water column causes a low air pressure just above it. The water seal of the toilet has normal air pressure on the toilet side and a lower air pressure on the toilet pipe side. This difference of air pressure causes the water seal in the toilet seat to get sucked out into the pipe. Thus the water seal is broken and foul gases can enter into the toilet room.

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**QNO 2:**

**Answer:**

## Sanitary Fixture:

It is a receptacle for industrial and fecal sewage that is installed in homes, public and industrial buildings. Sanitary fixtures are attached to the interior systems of water pipes and sewerage systems and constitute the main elements of a building’s sanitary engineering equipment. Sanitary fixtures are installed in different areas. Bathtubs, washstands, shower sumps, traps, and bidets are installed in bathrooms, washrooms, and shower rooms. Toilet bowls, lavatory pans, and urinals of various types, whether equipped with flush tanks or taps, are installed in lavatories. Washers, sinks and drains are installed in kitchens.

It is also used in medical institutions, laboratories, bathhouses, barber shops, and beauty salons and on transportation facilities. Sanitary fixtures are equipped with hydrants or faucets that deliver both hot and cold water. They are also equipped with siphons that have water seals to prevent polluted air from entering a room from sewerage pipes.

**Trap (plumbing):** In plumbing, a trap is a device shaped with a bending pipe path to retain fluid to prevent sewer gases from entering buildings while allowing waste materials to pass through. In oil refineries, traps are used to prevent hydrocarbons and other dangerous gases and chemical fumes from escaping through drains.

In domestic applications, traps are typically U, S, Q, or J-shaped pipe located below or within a plumbing fixture

Where a volume of water may be rapidly discharged through the trap, a vertical vented pipe called a standpipe may be attached to the trap to prevent the disruption of the seal in other nearby traps. The most common use of standpipes in houses is for clothes washing machines, which rapidly dispense a large volume of wastewater while draining the wash and rinse cycles.

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**QNO 3:**

**Answer:**

**Cross connection:** A cross-connection is any temporary or permanent connection between public water system or consumer's potable (i.e., drinking) water system and source or system containing non-potable water or other substances. An example is the piping between a public water system or consumer's potable water system and an auxiliary water system, cooling system or irrigation system.**Back- siphonage:** Back-siphonage is backflow caused by a negative pressure (i.e., a vacuum or partial vacuum) in a public water system or consumer's potable water system. The effect is similar to drinking water through a straw. Back-siphonage can occur when there is a stoppage of water supply due to a nearby firefighting, a break in a water main, etc.