(1/2)

Waste Water & Water Supply (CE-305)

2nd test

Model Answer

Time = 1 hr
MM = 15

Ans 1. The various physical, chemical and bacteriological characteristics are tabulated as under:

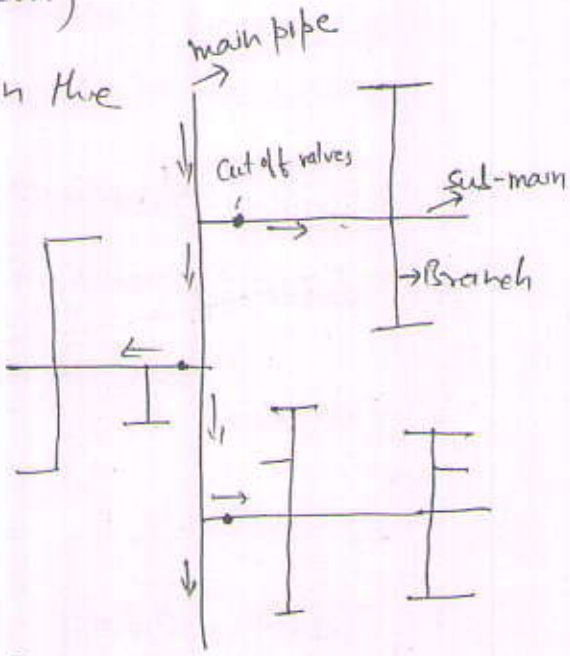
		Test Performed to measure
1. Physical characteristics	—	
a. Turbidity (suspended matter)	—	Turbidity rod, Jackson's Turbidimeter, Baylis turbidimeter
b. Colour	—	Comparing colour of water with standard glass tubes (Nessler tubes) containing solution of different standard colour intensities.
c. Taste & Odour	—	By diluting the sample and find threshold odour number.
2. Chemical characteristics		Test Performed
a. Total solids and suspended solids	—	By evaporating the sample and weigh the residue.
b. pH value	—	Potentiometer, colour indicators
c. Hardness of water	—	By titration method (EDTA method)
3. Bacteriological characteristics	—	
a. Pathogenic bacteria or pathogens	—	Examine under microscope.

Ans 2: The various layout of distribution networks are:

i) Dead End system: (Tree system)

The description of layout is shown in the diagram.

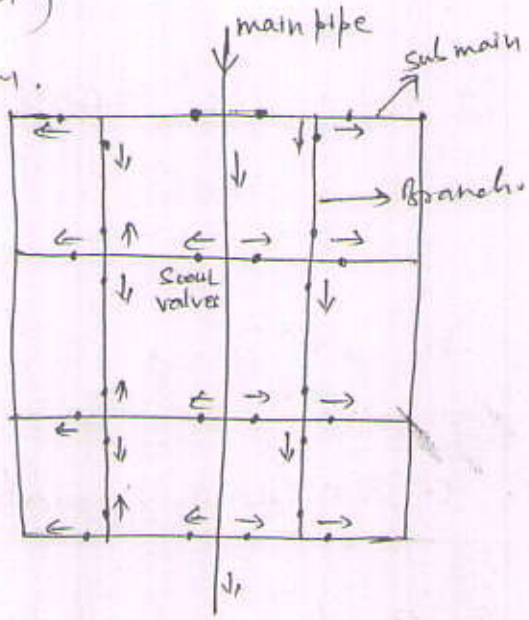
This type of layout is adopted for older towns which are developed in a haphazard manner, without properly planned roads.



ii) Grid-iron system: (Interlaced system)

The layout is shown in the diagram.

This system is more suitable for well planned towns and cities where roads are also developed in grid-iron pattern.

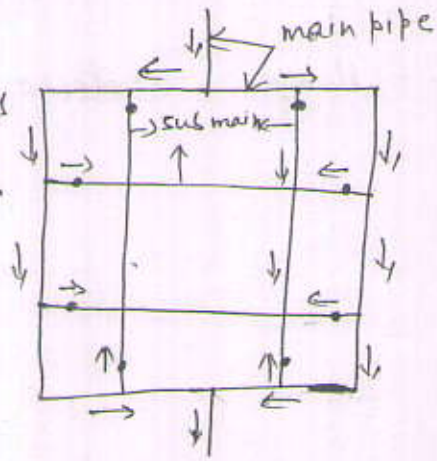


iii) Ring system (Circular system)

The layout is as per the diagram.

This system is very suitable for towns and cities having well planned roads.

Sometimes, this system is used along with grid-iron system in a high demand area.

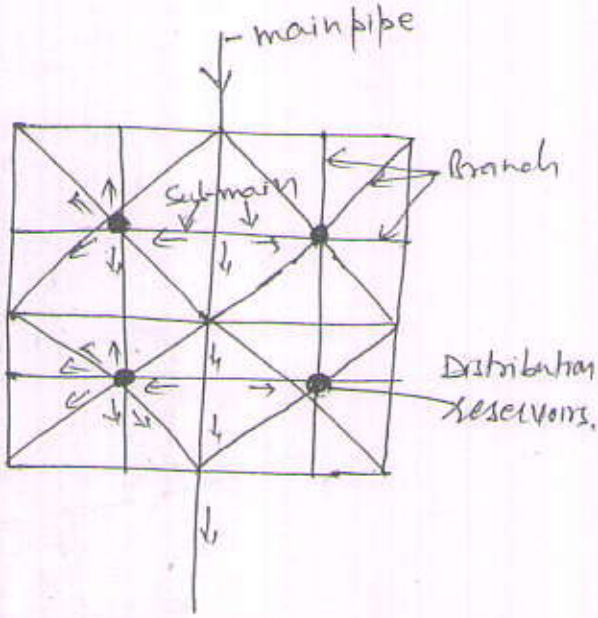


iv) Radial system:

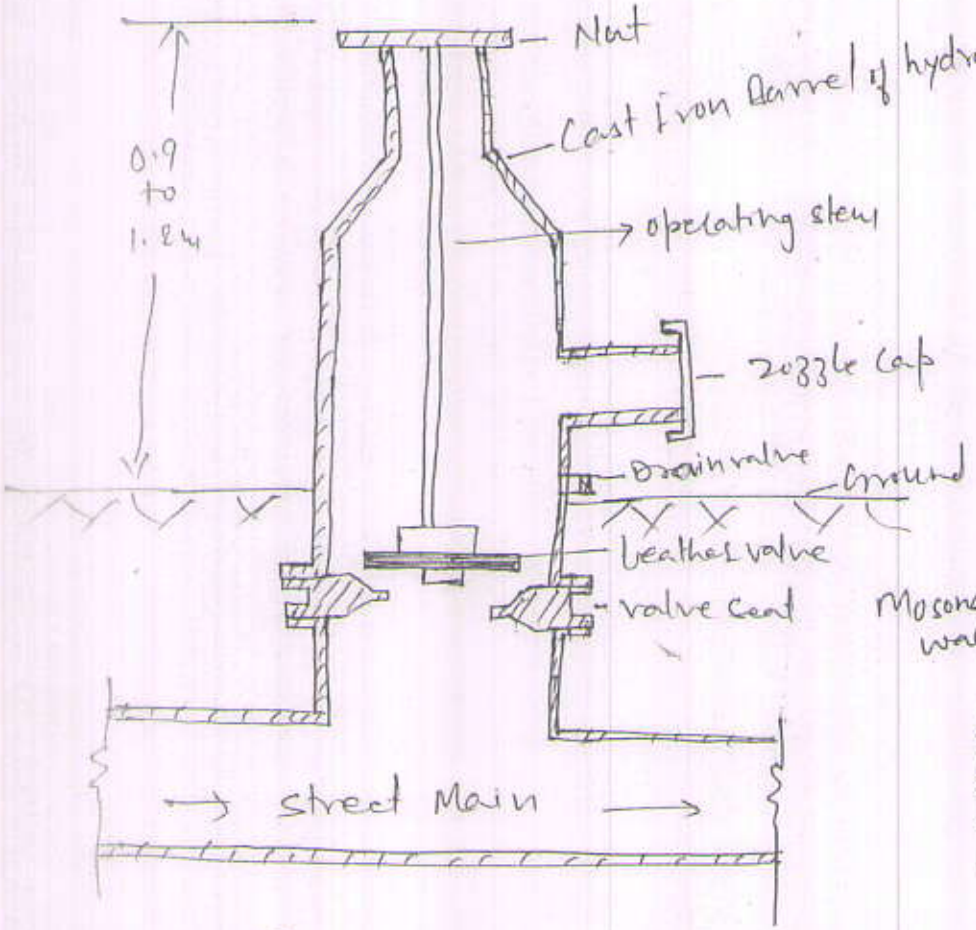
The layout is as per diagram.

This system can be best laid in a city or town having radial roads emerging from different centres.

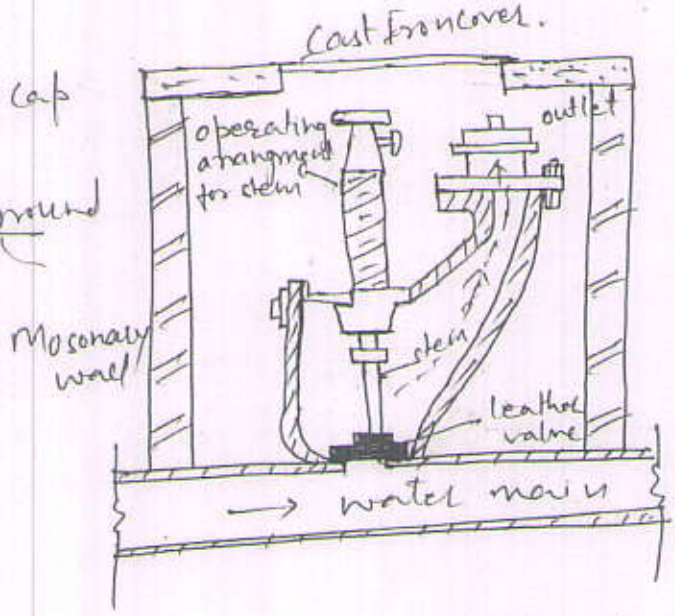
This method ensures high pressures and efficient water distribution.



Ans 3 a) Fire hydrant :

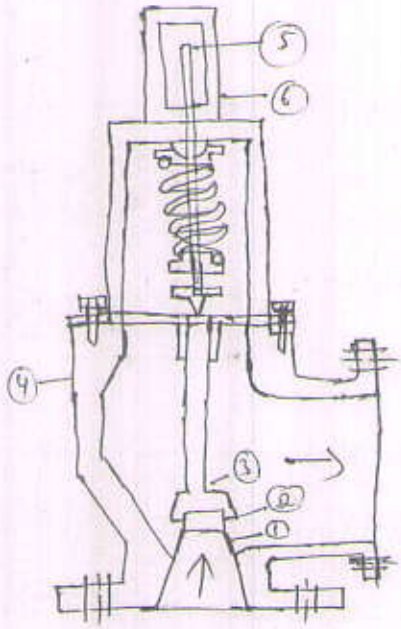


Post fire hydrant.



Flush fire hydrant

Fire hydrant is used to supply water to the fire brigade vehicle or supply water to the fire place at a time of need from water main.



1. Inlet nozzle
2. valve seat
3. seat holder
4. valve body
5. set pressure
6. Cap.

It is a safety valve used to control or limit the pressure in a system.