

St. Andrews Scots Sr. Sec. School

9th Avenue, I.P. Extension, Patparganj, Delhi – 110092

Session: 2024 – 2025

(Answer Key)

Class: VII

Subject: Science

Chapter: Waste Water Story

CHECKPOINT 1

1. Waste water 2. Sewage 3. Contaminants 4. Pollution

CHECKPOINT 2

1. Potable water 2. Sewage 3. Water pollutants 4. Septic system

PRACTICE TIME

- A. 1. (b) 2. (d) 3. (c) 4. (c) 5. (c)

- B. 1. (T) 2. (F) 3. (F) 4. (T)

- C. 1. Chlorine; ozone
2. Clarified water
3. Methane, hydrogen, carbon-dioxide; hydrogen sulphide
4. Oils; fats

- D. 1. The organic impurities present in sewage are human wastes, animal wastes food wastes, soaps, detergents, pesticides, etc.

2. The organic solid matter collected at the bottom of the sedimentation tank is called sludge.

3. Biogas

4. The water containing wastes from various sources is called sewage.

5. We use water for drinking, cleaning, bathing, washing, cooking, etc.

6. Typhoid, Cholera

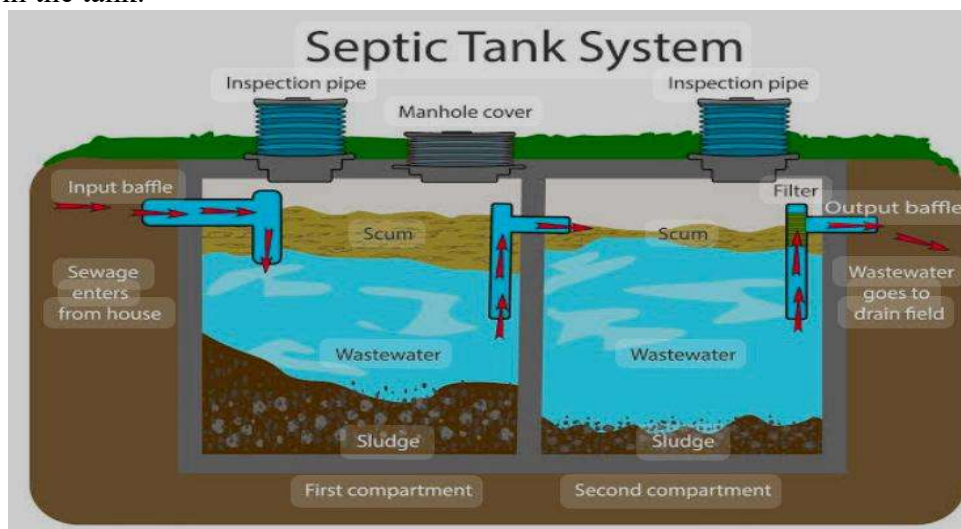
- E. 1. The process of removing contaminants from waste water is called waste water treatment. It involves screening, sedimentation, aeration and disinfection of waste water.

2. It is important to treat the sewage before it is discharged because it contains lots of germs and impurities. If discharged untreated, it will affect aquatic life by killing many aquatic animals such as fish, tortoise, etc.

3. When sewage is passed through bar screens, impurities in the form of large objects like rags, wood pieces, stones, cans, polythene bags, etc are left behind making the water suitable to be passed through equipments installed in water treatment plants.
4. Biogas is formed by the decomposition of sludge, collected at the bottom of sedimentation tank, by anaerobic bacteria.
5. The clarified water contains suspended organic impurities in the form of animal waste, soaps, detergents, etc, When clarified water is passed through aeration tank, these impurities are decomposed by aerobic bacteria releasing carbon-dioxide. The water so obtained is safe to discharge into the rivers or lakes.
6. (a) Used oils and fats should not be thrown in the drains as they may choke the pipes.
(b) Leaking sewage pipes should be repaired immediately because they can contaminate drinking water.
7. We can reduce water pollution at public places by not throwing plastic bags or litter in the waterbodies.

F. 1. Harmful effects of untreated sewage are :

- Untreated sewage contains lot of harmful bacteria, parasites, fungi, viruses, etc. that can cause infection and diseases.
 - It can lead to both surface water and groundwater pollution.
 - It contains lots of toxic chemicals that can kill marine life.
 - Sewage from leaking sewer pipes can enter drinking water pipes and contaminate them.
 - It can lead to dirty and stinking surroundings.
 - Untreated sewage may cause blockages in drains and they encourage mosquito and fly breeding.
2. When water is allowed to pass into sedimentation tank, organic solid matter like faeces sinks slowly to the bottom and materials like grease and oil float at the surface and are skimmed off. The organic solid matter collected at the bottom of the sedimentation tank is called sludge which is continuously removed by scrapers. The water now obtained is called clarified water and looks cleaner.
 3. A septic system is a highly efficient underground waste water treatment system. It is an alternative method of sewage disposal where sewage treatment is not possible. Septic systems are less expensive than sewer system. Septic system uses natural processes to treat the waste water. The two main parts of a septic system are a septic tank and a drain field. In a septic tank, anaerobic bacteria decompose the waste discharged in the tank.



4. The natural ways of sewage treatment are septic system and decomposition of sewage by aerobic and anaerobic microorganisms.
- G.1.** Yes, overwatering the plants can lead to contamination of groundwater as fertilisers dissolved in water can reach the ground causing contamination of ground water.
2. Microorganisms present in waste material help in the treatment of sewage by decomposing its organic part into simpler form.