CBSE NCERT Solutions for Class 7 Science Chapter 18

Back of Chapter Questions

1. Fill in the blanks:
   (A) Cleaning of water is a process of removing _________.
   (B) Wastewater released by houses is called _________.
   (C) Dried _________. is used as manure.
   (D) Drains get blocked by _________. and _________.

   Solution:
   (A) Pollutants
   (B) Sewage
   (C) Sludge
   (D) Cooking oil and fats

2. What is sewage? Explain why it is harmful to discharge untreated sewage into rivers or seas.

   Solution:
   Wastewater which contains solid as well as liquid wastes which are produced by different kinds of activities of human beings from homes, industries, hospitals, offices, etc. is called sewage.

   It contains various kinds of contaminants which are very harmful for human beings and can cause disease because it has disease-causing bacteria and other microbes. If sewage water is not treated and they are discharged into rivers or seas without treatment then the same water if used for drinking or other purposes can cause various types of diseases like cholera, typhoid, dysentery, etc. which may lead to death. That is why it is harmful to discharge untreated sewage into rivers or seas.

3. Why should oils and fats be not released in the drain? Explain.

   Solution:
   Sewage pipes are hardened by oils and fats. In an open drain also, fats block porosity of soil which affects its water filtering efficiency. Therefore, oils and fats should not be released in the drain.

4. Describe the steps involved in getting clarified water from wastewater.

   Solution:
The steps involved in getting clarified water from wastewater are as follows:

(i) Aerators, mechanical stirrers, and mixers are used to bubble air through the wastewater in order to reduce the bad odour of the wastewater.

(ii) Then, the water is filtered through the layers of sand, fine gravel, and medium gravel. Wastewater is cleaned from various kinds of pollutants by the process of filtration. The water is filtered continuously until it becomes clear.

(iii) Finally, any disinfectant such as chlorine tablet is added to the filtrate and stirred to obtain completely clear water.

5. What is sludge? Explain how it is treated.

Solution:

Semi-solids such as faeces that settle down during wastewater treatment are called sludge. This sludge is removed using a skimmer and then transferred to a tank where it is decomposed by anaerobic bacteria to produce biogas. This biogas is used as a low-cost fuel for heating, cooking, etc. It is also used to produce electricity.

6. Untreated human excreta is a health hazard. Explain.

Solution:

Untreated human excreta is a health hazard. It contains various disease-causing microorganisms. It causes pollution of soil and water including the underground water. Thus, it contaminates the sources of water from which people collect water for drinking and household purposes. When this contaminated water is used for drinking, it causes diseases such as cholera, typhoid, hepatitis, dysentery, etc, which may even lead to death.

7. Name two chemicals used to disinfect water.

Solution:

Chlorine and ozone are used to disinfect water.

8. Explain the function of bar screens in a wastewater treatment plant.

Solution:

In a wastewater treatment plant, bar screen removes large solid objects from water. The wastewater is allowed to pass through bar screens so that large solid objects such as rags, napkins, sticks, cans, plastic bags, polythene, etc. present in wastewater can be removed.

9. Explain the relationship between sanitation and disease.

Solution:
Sanitation and disease are related to each other as lack of sanitation can cause diseases.

In our country, a large number of people even today do not have sewerage facilities and thus defecate in open fields, railway tracks, etc. The untreated human excreta thus pollute soil and water sources including the underground water. When this contaminated water is used for drinking, it can cause diseases such as cholera, typhoid, hepatitis, dysentery, etc. which may even lead to death.

Therefore, lack of sanitation in drinking water can cause health problems.

10. Outline your role as an active citizen in relation to sanitation.

Solution:

A citizen has many responsibilities regarding sanitation. Among other things, an active citizen should do the following with regard to maintaining proper sanitation:

(i) Ensure that his surroundings (both inside and outside the home) are clean.
(ii) Ensure that the sewerage system in his house is properly managed.
(iii) If he notices some leakage or any other problem in the sewerage system, he should report it to the municipality.

11.

Across

3. Liquid waste products
4. Solid waste extracted in sewage treatment
6. A word related to hygiene
8. Waste matter discharged from the human body
1. Used water
2. A pipe carrying sewage
5. Microorganisms which causes cholera
7. A chemical to disinfect water

Solution:

Across
3. Sewage
   Sewage is a liquid waste product.
4. Sludge
   Sludge is solid waste extracted in sewage treatment.
6. Sanitation
   Sanitation is related to health and hygiene, especially with clean drinking water and sewage disposal.
8. Excreta
   Excreta is the waste product generated from the human body.

Down
1. Wastewater
   Used water released by houses is called wastewater or sewage.
2. Sewer
   Sewer is a pipe, usually underground, for carrying sewage.

5. Bacteria
   Bacteria is a microorganism which causes cholera.

7. Ozone
   Ozone is a chemical that is used to disinfect water.

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