Ch-16- Water: A Precious Resource

1. Mark 'T' if the statement is true and 'F' if it is false:

(a) The freshwater stored in the ground is much more than that present in the rivers and lakes of the world.

(b) Water shortage is a problem faced only by people living in rural areas.

(c) Water from rivers is the only source for irrigation in the fields.

(d) Rain is the ultimate source of water.

Answer:

(a) The freshwater stored in the ground is much more than that present in the rivers and lakes of the world. (T)

(b) Water shortage is a problem faced only by people living in rural areas. (F)

(c) Water from rivers is the only source for irrigation in the fields. (F)

(d) Rain is the ultimate source of water. (F)

2. Explain how groundwater is recharged?

Answer:

The rainwater and water from other sources such as rivers and ponds seeps through the soil and fills the empty spaces and cracks deep below the ground. The process of seeping of water into the ground is called infiltration. The groundwater thus gets recharged by this process. At places the groundwater is stored between layers of hard rock below the water table. This is known as an aquifer. Water in the aquifers can be usually pumped out with the help of tube wells or hand pumps.

3. There are ten tube wells in a lane of fifty houses. What could be the long term impact on the water table?

Answer :

Water drawn from under the ground gets replenished by seepage of rainwater. The water table does not get affected as long as we draw as much water as is replenished by natural processes. However, water table may go down if the water is not sufficiently replenished. As stated, there are ten tube wells in a lane of fifty houses,

so the quantity of water being pumped out by 10 tube wells cannot be replenished by the available sources like rain, drainage to recharge the ground water table. As a result of this, in long term the water table beneath will be get depleted and after some years there will be no water for 10 tube wells to pump out.

4. You have been asked to maintain a garden. How will you minimize the use of water?

Answer :

For maintaining the garden, we can take following steps to minimize the use of water:

1. We can employ drip irrigation to water the garden. Drip irrigation is a technique of watering plants by making use of narrow tubings which deliver water directly at the base of the plant.

2. We should water the plants in garden in early morning hours. If you are unable to water early in the morning, late afternoon is the next best; this is after the sun's heat has lost its harshness but before the chill in the air begins to set in.

3. We should avoid using a sprinkler during windy weather, as the water will blow away and evaporate, wasting the water.

5. Explain the factors responsible for the depletion of water table.

Answer :

The factors responsible for the depletion of water table:

1. Increasing population: Increasing population creates demand for construction of houses, shops, offices, roads and pavements. This decreases the open areas like parks, and playgrounds. This, in turn, decreases the seepage of rainwater into the ground. A cemented floor does not allow water to seep in easily, while in a grass lawn water seeps through in no time. Moreover a huge amount of water is required for construction work. Often groundwater is used for this purpose. So, on the one hand we are consuming more groundwater, and on the other we are allowing lesser water to seep into the ground. This results in depletion of water table. In fact, the water table in some parts of many cities has gone down to alarmingly low levels

2. Increasing industries: Water is used by all the industries. Almost everything that we use needs water somewhere in its production process. The number of industries is increasing continuously. Water used by most of the industries is drawn from the ground.

3. Agricultural activities: A majority of farmers in India depend upon rains for irrigating their crops. Irrigation systems such as canals are there only in a few places. Even these systems may suffer from lack of water due to erratic rainfall. Therefore, farmers have to use groundwater for irrigation. Population pressure on agriculture forces increasing use of groundwater day by day. This results in depletion of water table.

6. Fill in the blanks with the appropriate answers:

(a) People obtain groundwater through tube _____ and _____.

(b) Three forms of water are _____, _____and _____.

(c) The water bearing layer of the earth is _____.

(d) The process of water seepage into the ground is called _____.

Answer:

(a) People obtain groundwater through **tube wells** and **hand pumps**.

(b) Three forms of water are **solid**, **liquid** and **vapour**.

(c) The water bearing layer of the earth is **aquifer.**

(d) The process of water seepage into the ground is called **infiltration**.

7. Which one of the following is not responsible for water shortage?

(i) Rapid growth of industries

(ii) Increasing population

(iii) Heavy rainfall

(iv) Mismanagement of water resources

Answer : (iii) Heavy rainfall

8. Choose the correct option. The total water

(i) in the lakes and rivers of the world remains constant.

(ii) under the ground remains constant.

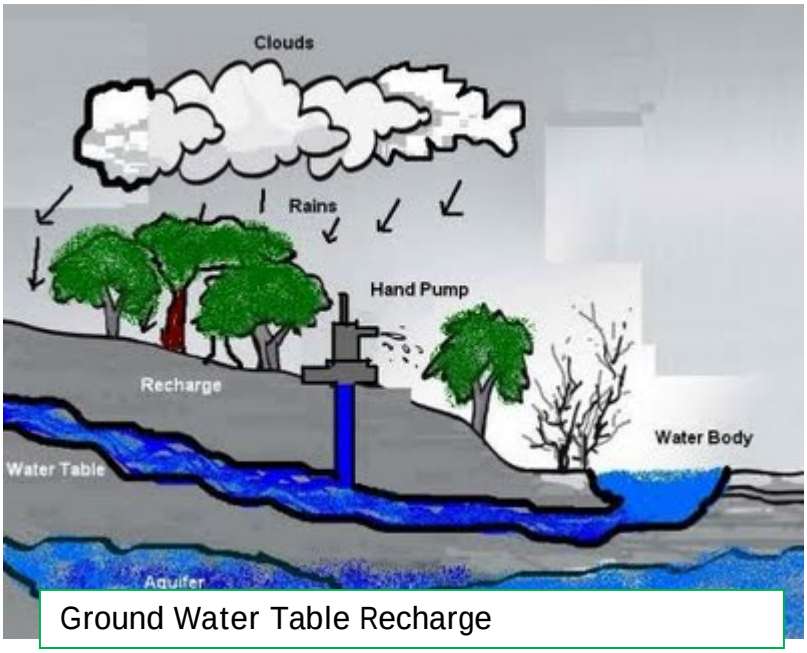
(iii) in the seas and oceans of the world remains constant.

(iv) of the world remains constant.

Answer: (iv) of the world remains constant.

9. Make a sketch showing groundwater and water table. Label it.

Answer :



Ground Water Table Recharge