

 **Book exercise WATER Date: 20.1.23**

**A.Choose the most appropriate answers**

**1.**How much of the earth's surface is covered with water?
(a) about two-thirds **(b) about three-fourths**
(c) exactly three-fourths (d) about one-fourth

**2.**Which of these changes occur on heating water?
(a) water to ice **(b) water to water vapour**
(c) water vapour to water (d) all of them

**3.**The purest form of natural water is
(a) rainwater. **(b) groundwater**. (c) surface water. (d) sea water.

**4.**Which of the following processes in the human body needs the presence of water?
(a) digestion (b) transport of nutrients **(c) excretion**  (d) all of these

**5.**'Water table' refers to
**(a) level of groundwater**. (b) level of surface water.
(c) level of sea water. (d) any of these depending on the location

**6.**Rainwater harvesting means
(a) harvesting of crops during rains. (b) using rainwater to add to underground water.
(c) storing rainwater in tanks. **(d) both b and c**

**7.**Water in seas cannot be used because of
(a) problems of transporting it to land. (b) pollution.
**(c) high salt content**. (d) high nitrogen content.

**8.**Rainwater that does not seep into the soil and runs off on land is called
(a) water table. **(b) surface water** (c) groundwater (d) glacier.

**9.**Which of the following does rainwater contain?
(a) dissolved salts **(b) dissolved gases** (c) sewage (d) pesticides

**B. Very short answers**

**1.**Vegetables and fruits contain a lot of water. **True** or false?

**2.**About **seventy**percent of the human body consists of water.

**3.**Where does water exist in the gaseous state?

**ANS:** Water in the atmosphere exists in the gaseous state as water vapour.

**4.**Change of temperature can be used to change the state of water. **True** or false?

**5.**The conversion of water into ice on cooling is called **freezing of water**; and the conversion of ice to water on **heating**is called **melting of ice**.

**6.**Which evaporates faster−hot water or cold water?

**ANS:** Hot water evaporates faster than cold water. The rate of evaporation depends upon the temperature. Higher the temperature, faster the water evaporates.

**7.**Water evaporates rapidly to form steam when it starts **boiling**.

**8.**Give one word for 'water vapour changing to water on cooling'.

**ANS:**'Water vapour changing to water on cooling' is called condensation.

**9.**Water drops fall as rain as soon as water vapour in the clouds condenses to form water. **True** or false?

**10.**The water that seeps under the ground does not participate in the water cycle any more. True or **false**?

**11.**In places where the air is polluted, rainwater sometimes contains an acid. **True** or false.

**12.**What is the name given to the level at which groundwater is found?

**ANS:** Water table is the name given to the level at which groundwater is found.

**13.**Groundwater is generally free from suspended impurities. **True** or false?

**14.**Sea water **cannot** (can/cannot) be used for irrigation.

**15.**Increased soil erosion occurs during a drought. **True** or false?

**16.**Diseases can spread during both floods and drought. **True** or false?

**17.**In coastal areas, flooding is mostly caused by **cyclones**.

**18.**You can collect rainwater for later use by rainwater **harvesting**.

**C. Short answer questions**

**1.**Name the three states of water.

**ANS:**The three states of water are:
(i) Ice (solid)
(ii) Water (liquid)
(iii) Water vapour (gaseous)

**2.**Name the forms of water as it occurs in nature in the three states.

**ANS:** Water occurs in nature in the solid-state as ice, in a liquid state as water and in a gaseous state as water vapour.

**3.**'Evaporation of water occurs at all temperatures.' How is evaporation dependent on temperature?

**ANS:** Evaporation of water occurs at all temperatures. As the temperature increases the rate of evaporation also increase.

**4.**Why does water vapour condense when it reaches high up in the atmosphere?

**ANS:** The air gets cooler as it goes higher in the atmosphere. Because of the cooler air, the water vapour gets condensed when it goes higher in the atmosphere.

**5.**When water vapour condence, it forms tiny drops of water that form clouds. When do these droplets come down as rain?

**ANS:** Water vapour condenses to form tiny droplets that form clouds. If there are dust particles in the clouds on which the water droplets can settle and get bigger, then the droplets will eventually become large enough to fall as rain drops.

**6.**How can you change
(a) water to ice?
(b) ice to water?
(d) water vapour to water?

**ANS:**(a) Water can be changed to ice by reducing the temperature. This is known as freezing of water.

(b) Ice can be changed to water by heating it. This is known as melting of ice.
(c) Water vapour can be changed to water by cooling the water vapour. This is known as condensation.

**7.**How are natural springs of water formed?

**ANS:** The ground water which passes along the surface of the non porous rocks, however, at some places come out on the surface, forming a natural spring.

**8.**Give any three important uses of water.

**ANS:** Following are the uses of water:

Water is extensively used for all domestic purposes like drinking, washing, cooking etc.

1. Water is one of the important mediums of transportation.
2. Water a source of energy to produce electricity.
3. **9.** What do you mean by the 'water cycle'?

**ANS:** The cycle which involves the constant circulation of water from earth to atmosphere, and again back to the earth is called as water cycle.

**D. Long question answers**.

**1.**Why is water so important for out body?

**ANS:** Water is important for our body because of the following reasons:

Water is a major constituent of all bodily fluids such as blood and plasma.

1. Water is essential for digestion of food, absorption of food and also excretion of wastes from the body.
2. Water is useful to cool the body and regulate temperature. When it is hot, we sweat from our skin.
3. A correct concentration of salts is maintained by water, which makes conduction of nerve impulses possible.

**2.**In what ways is water useful to plants?

**ANS:** The utility of water to plants is as follows:

Water is required for the germination of seeds, their growth and development.

1. The roots of the plants absorb water from the soil. Along with carbon dioxide and water, plants prepare food in the presence of sunlight by photosynthesis.
2. This food is transported to various parts of the plants by means of water.

**3.**How can you show that water vapour is present in air?

**ANS:** To demonstrate the presence of water vapour in air, take some ice cubes in a glass. Let the glass stand without being disturbed for some time. You will observe droplets of water on the outer surface of the glass.
These water droplets result from the condensation of water vapour from the air on the cold surface of the glass. This shows that water vapour is present in air.

**4.**What are the reasons for lowering of the water table in large cities?

**ANS:** The water table in large cities has been lowered because of the following reasons:

 1.In large cities, trees have been felled to make room for buildings and roads causing less rainfall in large cities.

2.In large cities, rain water is diverted by drains into lakes and reservoirs, rather than into the water table.

 3.The large population in big cities uses ground water and other water resources faster than they can be replenished.

 4.During a drought, the prices of grain, fruits and vegetables go up.

5.Why do you think this happens? Do you expect the prices of grain, fruits and vegetables to go up during floods also? Why?

**ANS:** Drought is a situation which occurs due to the shortage of rainfall.This results in drying up of crops, which in turn leads to the shortage of food. Hence, during drought, the prices of grains, fruits and vegetables increase.
Floods are caused due to excess rainfall. Due to the excess water flow, the crops gets damaged again resulting in the shortage of food. Again, this causes an increase in food prices.

**6.**What are the causes of floods?

**ANS:** During monsoon season, most parts of our country receives heavy rainfall. The rivers which are perennial, receive a very large amount of water. This causes the rivers to overrun their banks and move towards land, causing floods. In coastal areas, floods are often caused by tidal waves, which occur due to cyclones.

**7.**List four ways in which we can conserve water.

**ANS:** Following are the ways by which we can conserve water and use it effectively:
(i) Using the water effectively, by avoiding wastage and recycling wherever possible.
(ii) Planting more trees and forestation. Trees absorbs water from the ground. Hence, balance the water cycle.
(iii) Storing rain water in large amounts for future use by constructing dams.
(iv) Treating the sewage and industrial wastes before disposing them to the water source, thereby reducing the water pollution.

**8.**Big dams have their own problems. Discuss.

**ANS:** Big dams have large water reservoirs to store a huge amount of water at a time. If the rainfall is heavy and the water exceeds the storage limit of the reservoir, then water is released from the dam. This causes heavy flooding, which destroys wildlife, agriculture and displaces people from their homes. Also, large amount of water stored in dams can cause earthquakes in regions prone to tectonic activity.

**9.**What is rainwater harvesting? What are the two ways in which it can be done?

**ANS:** Rain water harvesting is storing the rain water for future use. Rain water harvesting can be done in following two ways:
(i) The rain water that falls on the roof of the buildings are directed towards a deep pit in the ground. In this way the ground absorbs the water and thereby adding to the underground water reserves.
(ii) Instead of allowing the rainwater to flow into the drains, the rain water has to be directed to the underground pits to again boost ground water levels.

Complete the HOTS question of your own.

Project – collect the pictures of different RO methods and make a college on it.