

Matter in Our Surroundings Question Answers Test-1

Subjective Test

Question 1 (1.0 marks)

State whether True or False.

- (i) Water has no definite shape; therefore, it is not matter.
- (ii) Gases expand to fill the space available.

Solution:

- (i) False
- (ii) True

Question 2 (1.0 marks)

A substance has a definite volume, but no definite shape. State whether this substance is solid, liquid or gas.

Solution:

Liquid

Question 3 (1.0 marks)

Which physical state of matter is the densest?

Solution:

Solid

Question 4 (2.0 marks)

What are the different factors affecting evaporation?

Solution:

Different factors affecting evaporation:

- (i) Surface area
- (ii) Temperature
- (iii) Wind speed
- (iv) Humidity

Question 5 (2.0 marks)

The following figure shows a block of ice. Give two reasons as to why this block is considered as matter.



Solution:

The block of ice is considered as matter because:

- (i) It occupies space

(ii) It has a definite mass

Question 6 (2.0 marks)

Why does matter change state?

Solution:

Temperature determines the state of a substance. Change of state takes place because the molecules of matter that make up a substance vibrate faster when the substance is heated. When heated, the solid state changes into the liquid state, and the liquid state changes into the gaseous state.

When cooled, the gaseous state condenses into the liquid state, and the liquid state condenses into the solid state.

Question 7 (2.0 marks)

It is observed that water boils at lower temperature at higher altitudes. Why?

Solution:

Atmospheric pressure is much less at higher altitudes. So, less thermal energy is required to get the vapour pressure equal to the atmospheric pressure. Hence, water boils at lower temperature at higher altitudes.

Question 8 (2.0 marks)

If some alcohol is rubbed on the hand, the rubbed portion of the hand feels cool. Why?

Solution:

Alcohol is a volatile liquid. It evaporates at room temperature. When it is rubbed on the hand, it draws heat from the skin and evaporates into the surroundings. As a result, the rubbed portion of the hand feels cool.

Question 9 (3.0 marks)

Name the following.

(i) State of matter having the maximum intermolecular space

(ii) Force between particles of matter

(iii) State of matter with only one free surface

Solution:

(i) Gaseous state

(ii) Cohesive force

(iii) Liquid

Question 10 (3.0 marks)

A large crystal of potassium permanganate is kept in a glass beaker containing water. This setup is then left undisturbed for an hour. The solution undergoes a change in color.

(i) What is this change in color?

(ii) Why does such a change take place?

Solution:

(i) The solution is colorless at the beginning. After some time, the water at the bottom becomes dark pink, while that at the top becomes light pink. After some more time, the entire solution becomes dark pink in color.

(ii) *Reason for the change in color:*

The crystals of potassium permanganate sink to the bottom and get dissolved in water. Gradually, the molecules of the solid move up to occupy the intermolecular spaces of the liquid.