\section*{QB365 \\ Important Questions - Matter in Our Surroundings \\ 9th Standard CBSE \\ Science \\ Reg.No.: \\ |  |  |  |  |  |  |
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Time : 01:00:00 Hrs

Total Marks : 50

## Section-A

1) Which of the following pairs will not exhibit diffusion?
(a) Hydrogen, oxygen
(b) Oxygen-water
(c) Salt, sand
(d) Sugar crystal - water.
2) Which of the following substances is not a solid?
(a) Butter
(b) Glass
(c) Sponge
(d) Rubber band.
3) Gases are liquified under
(a) high pressure, high temperature
(b) high pressure, low temperature
(c) low pressure, high temperature
(d) low pressure, low temperature.
4) Particles of a liquid
(a) are most ordered
(b) move randomly
(c) have large intermolecular spaces
(d) can slip and slid over each other.
5) Gases can be easily compressed because these have least intermolecular interactions.
(a) assertion is correct and reason is correct
(b) assertion is correct and reason is wrong
(c) assertion is wrong and reason is correct
(d) assertion is wrong and reason is wrong.
6) The mass per unit volume of a substance is called $\qquad$
7) The energy possessed by a particle by virtue of its motion is called $\qquad$ energy.
8) The reduction in temperature and increase of $\qquad$ can liquify gases.
9) Rate of evaporation increase with $\qquad$ of the vessel.
10) When ice melts there is a $\qquad$ in volume.

## Section-B

11) (a) What temperature in Kelvin scale is equal to $50^{\circ} \mathrm{C}$ ?
(b) Describe an activity to show that rate of evaporation increases with surface area.
(c) State two differences between evaporation and boiling.
12) What is matter?
13) Sodium salt and sugar have similar appearance.Why are these classified as different substances?
14) In what ways air can be considered as matter?
15) How will you show that particles of matter have space between them?
16) What do you mean by diffusion?Explain giving an example
17) If you open a bottle of perfume in one corner of a room, it immediately spreads throughout the room.State and explain the property involved.
18) Which property of gases help us in detecting the leakage of LPG gas?
19) Give an example of i) a liquid diffusing into a solid, ii) solid diffusing into a liquid and iii) Solid diffusing into a solid.

## Section-C

21) A diver is able to cut through water in a swimming pool.Which property of matter does this observation show?
22) A wooden chair is a solid at room temperature. Give two reasons.
23) Classify the following materials according to the state in which they exist around us:

Steel, blood, air, oil, rubber, honey, carbon dioxide, kerosene, LPG, CNG, nitrogen, oxygen, glass.
24) since early times human beings have been trying to understand their surroundings.As we look our
surroundings we have a larger variety of things with different shapes, sizes and textures.Everything in this universe includes the air we breathe, the food we eat or store, clouds, stars, plants, elements, even a drop of water or a particle of water or a particle of sand.We can also see as we look around us that all the things mentioned are either visible or invisible.
(a)what do ou call all these materials in one word?
(b)Write at least two characteristics that you can draw from above observation.
(c)In how many forms these materials are available to us?
(d)Can you consider smell or love as materials?
(e)What social consideration can draw from above findings?

## Section-A

1) (c) Salt, sand
2) (a) Butter
3) (b) high pressure, low temperature
4) (d) can slip and slid over each other.
5) (b) assertion is correct and reason is wrong
6) density
7) kinetic
8) pressure
9) surface area
10) decrease

## Section-B

(i) $50+273=323 \mathrm{~K}$
(ii) Activity Take little amount of water in three containers which have different surface areas. Keep hem in sunlight for 2 h . Measure the volume of water left in all three containers.
Observation The amount of water left will be least in container having largest surface area among them.
Conclusion Greater the surface area, more will be the rate of evaporation.
12)

A substance occuring in nature or coming in use in day to day life is called matter.Examples are naturally occuring minerals, plants to paper, chalk, coke, food etc.a matter may be available in varieties of shape, size, colour and odoour.Matter is thus anything that has and occupies space.
13)

The substances are not classified only by their appearances.These are classified by their properties such as density, boiling point or melting point, conductivity, thermal capacity and other chemical properties.sugar and sodium chloride have different physical and chemical properties and so are different substances.
14) Air is matter because it has mass and occupies space.
15)

Take a beaker half filled with water.Mark the level of water.Now add some matter like sugarm, salt or dettol in it.It will be observed that the added matter disappears and there is hardly and change in level of water.This is because particles of one matter, i.e., salt, sugar or dettol get into the sapces between the particles of the other matter, i.e., water.Thus we can say that there is enough between particles of matter.
16)

Particles of matter are always in a state of motion. They move to interect with other particles and distribute themselves equally in all available space.This intermixing of particles of two substances on their own is called diffusion.Particles of a gas diffuse faster than particles of a liquid.
Example:Light an agarbatti in one corner of the room, and stand in the other corner.Very soon, you will feel smell of agarbatti.The particles of perfume in the agarbatti stick mix with particles of air and spread out eventually and reach to us even at a distance.this is due to diffusion of agarbatti particles into particles of air.
17)

When a crystal of pottasium permaganate is dropped in a glass tumbler containing water, then the colour of pottasium permanganate spreads throughout the water in the glass.This shows that the particles of matter are continuosly moving.
18)

The property involved is diffusion.In a gas the particle are free to move in a chaotic motion at a great speed throughout its containing vessel.Thus when you open a bottle of perfume in one corner, the particles of the perfume move at random motion in all directions and mix other gas particles in the air, thus reaching instantaneously to our nose.
19) Diffusion
(i) Liquid diffusing into solid.If we put a drop of ink on the centre of a clean blotting paper, we find the liquid spreads out by diffusing into the blotting paper which is a solid.
(ii) Solid diffusing into liquid. When we put a crystal of potassium permanganate in water, slowly the colour of potassium permanganate spreads throughout water.
(iii) Diffusion of a solid into a solid.Diffusion of solids into solids is very very slow.So diffusion of a solid into other solids is rare and very small. When we write on a blackboard with a chalk, we can easily clean it. But if it is left uncleaned for few days, it becomes difficult to clean the blackboard.This is because there is a slight diffusion of chalk particles.i.e., solid into the solid blackboard.

## Section-C

21) 

Particles of water attract each other but the attraction is not strong enough to prevent the driver to cut through water.
22) A wooden chair is a solid because
(a) it is rigid.
(b) it has definite shape.
23) Solid -steel, rubber, glass

Liquid -Blood, oil, honey, kerosene, LPG
Gas -Air, carbon dioxide, CNG, nitrogen, oxygen.
24)
(a)Matter
(b)Matter occupies space and mass
(c)matter is available to us solid, liquid or gas.
(d)Smell and love cannot be considered as matter as these are only feelings.You cannot assign any be mass or volume to a love or smell
(e)Trivial things can be significant.It should not be ignored.

