**Chapter 1**

**Matter in our surrounding**

**( Deleted topics for the year 2020-2021 from this chapter- Definition of matter, solid, liquid and gas characteristics- shape, volume, density. Change of state- melting (absorption of heat) freezing, Evaporation( cooling by evaporation), condensation, sublimation.**

1. Differentiate between three states of matter on the basis of shape, compressibility, kinetic energy, intermolecular spaces, inter molecular force of attraction.
2. Geeta was making tea in a kettle. She felt intense heat from the puff of steam gushing out of the spout of kettle. She wondered whether the temperature of the steam was higher than that of the water boiling in the kettle, comment.
3. a) Conversion of solid to vapour is known as sublimation. Name the term used to denote the conversion of vapour to solid.

b) Conversion of solid state to liquid is known as fusion, what is meant by meant latent heat of fusion?

1. A student is given napthelene and ammonium chloride by his teacher. Suggest an activity to separate them with the help of labelled diagram.
2. On a hot summer day two friends Ram and John went out wearing cotton and nylon clothes respectively, who do you think was more comfortable and why?
3. A diver is able to cut through water in a swimming pool. What property of matter does this observation shows?
4. Comment on following
5. Evaporation produces cooling.
6. Rate of evaporation of an aqueous solution decreases with increase in humidity.
7. Sponge compresses even though it is solid.
8. Out of solid , liquid and gas which one of them has
9. Maximum movement of molecules
10. Maximum force of attraction between molecules
11. Minimum intermolecular space
12. Define density. Why do gases have low density?
13. Why do sugar crystals dissolve faster in hot water than cold water?
14. When you add a spoonful of salt in 100ml of water and dissolve it, there is no appreciable change increase in volume of water. State the characteristic of matter that is illustrated by this activity.
15. Why boiling is considered a bulk phenomenon while evaporation a surface phenomenon?
16. What happens to water when it is kept in a open container? Explain the phenomena of evaporation in this context.
17. People sprinkle water on roof and on open ground during hot summer day, why?
18. a) Define evaporation

b) List and explain the factors on which rate of evaporation depends with help of example.

1. State one difference between a gas and vapour.
2. Which one of them has maximum intermolecular attraction?

Ice, water, ethyl alcohol, kerosene, steam

1. What is dry ice? How is it formed?
2. State the property of the metal which is helpful in the survival of aquatic plant and animals and explain how?
3. State 2 properties that liquid have in common with solids.
4. When Ram added 2ml of Dettol to a beaker containing 500ml of water and stirs it. State 3 observations he will be able to make.
5. Classify the following into osmosis/ diffusion
6. Swelling up of raisin on keeping in water.
7. Spreading of virus on sneezing
8. Earthworm dying on coming in contact with common salt.
9. Preserving pickles in salt.
10. Multiple choice questions
11. Which one of the following sets of phenomena would increase on raising the temperature?

a)diffusion ,evaporation ,compression of gases b)Evaporation, compression of gases ,solubility c)Evaporation, diffusion , expansion of gases d)Evaporation , solubility , diffusion ,compression of gases

1. Seema visited a Natural gas compressing unit and found that the gas can be liquefied under specific conditions of temperature and pressure .While sharing her experience with friends she got confused. Help her identify the correct set of conditions.

a)low temperature , low pressure b)high temperature, low pressure c)low pressure , high temperature d)high temperature ,high pressure .

1. The property of flow is unique to fluids. Which of the following is correct?

a)only gases behave like fluids b)gases and solids behave like fluids. c) gases and liquid behave like fluids d)only liquids are fluids

1. During summer, water in earthen pot becomes cool because of the phenomenon of

a)diffusion b)transpiration c)osmosis d)evaporation

1. A few substances are arranged in increasing order of forces of attraction between their particles, which one of the following represents the correct arrangement?

a)water, air ,wind b)air, sugar ,oil c)oxygen, water, sugar d)salt, juice, air

1. On converting 250C, 380C AND 660C to Kelvin scale. The correct sequence of temperature will be

a)298K,311K, 339K b)298K, 300K , 338K c)273K, 278K, 543K d)298K, 310K, 332K

1. Choose the correct statement of the following

a)conversion of solid into vapours without passing through liquid state is called vaporisation b)conversion of vapours into solid without passing through liquid state is called sublimation c)conversion of vapours into solid without passing through liquid state is called freezing d)conversion of solid into liquid is called sublimation .

1. Which condition out of the following will increase the evaporation of water?

a)increase in temperature of water b)decrease in temperature of water c)less exposed surface area of water . d)adding common salt to water

**Chapter 2**

**Is Matter around us pure**

1. Look around in the kitchen and make a list of 6 substances used daily by us and segregate them into pure substance or mixture.
2. Differentiate between the following
3. Homogenous and heterogeneous mixture
4. Solution and suspension
5. Physical and Chemical change
6. What is colloidal solution?
7. An element is sonorous and highly ductile. Under which category would you classify this element? What other properties do you expect the element to have?
8. Milk is a colloidal solution, why?
9. You are given mixture of salt and ammonium chloride, how can you separate the two?
10. How can mixture of 2 miscible liquids be separated?
11. Air is a homogenous mixture of gases, make a flow diagram to show how various components can be separated?
12. Why is Crystallisation a preferred technique over others for purification of solids?
13. Name the methods used for separation of the following
14. Butter from curd
15. Salt from sea water
16. Grains from husk
17. Pebbles in water
18. Ram tested the solubility of substance at different temperature and collected the data given below in the table showing the grams of substance dissolved in 100grams of water to get saturated solution.

|  |  |  |  |
| --- | --- | --- | --- |
| S.N | Substance dissolved | Temperature-283K | Temperature-293K |
| 1 | A | 21 | 32 |
| 2 | B | 36 | 36 |
| 3 | C | 35 | 35 |

1. What mass of substance A is required to produce saturated solution of A in 50 grams of water at 293K?
2. Ram makes saturated solution of C at 293K and allows it to cool down, what will happen and why?
3. Which salt has highest solubility at 283 K?
4. Define the following terms
5. Saturated solution
6. Colloid
7. Compound
8. Multiple choice questions
9. When a liquid is spun rapidly, the denser particles are forced to bottom and lighter particles stay at the top. This principle is used in
10. Centrifugation b) Fractional distillation c) Evaporation d) Filtration
11. If the amount of solute contained in a solution is less than saturation level than the solution is known as
12. Saturated solution b) Unsaturated solution c) Supersaturated solution
13. \_\_\_\_\_\_\_ are homogenous mixture of metals and cannot be separated into their components by physical methods.
14. Compound b) Alloy c) Colloid d) Suspension
15. Which one of them is not application of centrifugation?
16. Used in diagnostic laboratories for blood and urine tests
17. Used in diaries and at home to separate butter from cream
18. Used to separate sugar from sugar solution
19. Used in washing machine to squeeze water from wet clothes.
20. A change that occurs without change in composition and chemical nature of substance is called a
21. Chemical change b) Physical change c) irreversible change d) none
22. Complete the flow chart of separation of constituent of mixture

Iodine+ Sodium chloride + Sand

S

Sublimes

Sodium chloride+ Sand

1. Why does solution of sodium chloride not show Tyndall effect whereas the mixture of water and milk shows?
2. What is meant by aqueous solution and non-aqueous solution? Give one example of each.
3. Classify the following as homogenous and heterogeneous mixture.

Milk, Concrete, Blood, Air, Salt solution

1. You have two glasses A and B. Both the glasses have colourless liquid in them, how can you say the liquid in both glasses is pure water or sugar solution without tasting it?
2. What is chromatography? How can it be used to separate dyes in black ink?
3. Explain what happens when a beam of light passes through a colloidal solution.
4. How is fractional distillation different from simple distillation?
5. State two properties of metal which are generally not found in non-metals.
6. Sea water can be classified as homogenous mixture as well as heterogeneous mixture, comment.
7. A match stick is lit under a cold piece of metal. The following observations are made: The match burns, water condenses on metal, the metal gets warmer, Soot( carbon) gets deposited on the metal. State which of these occurrences is due to physical or chemical change?