CHEMISTRY

BOOKS - PEARSON IIT JEE FOUNDATION

CLASSIFICATION OF MATTER

Example

1. Earthen pitchers are more effective in Hyderabad than in Chennai. Justify.

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2. People are advised to wear cotton clothes in summer. Give reasons.

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3. Describe the process of separation of the components of a mixture of iron filings, sand and camphor.

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4. Describe the process of separation of the components (potassium nitrate (nitre) + carbon + sulphur) of gunpowder.

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5. Establish logically that water is a compound.

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Test Your Concepts Very Short Answer Type Questions Fill In The Blanks

1. In a _____ properties of the constituents are retained.

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2. A mixture of alcohol and water is an example of _____ mixture .

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3. A substance which is formed by the chemical combination of two or more elements is called a _____ .

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4. Boiling point is the temperature at which____is converted into at normal atmospheric pressure.

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5. Non-metals usually exist in _____ state.

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6. _____ show the properties of metals and non-metals.

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7. With an increase in the surface area of a liquid, the rate of evaporation_____ .

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8. The conversion of a liquid to its solid state on cooling is called _____ .


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9. During freezing heat is _____ .


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10. Atomicity of ozone is _____ .

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Test Your Concepts Very Short Answer Type Questions

1. Generally metals

A. are solids

B. are good conductors of heat

C. have high tensile strength

D. all the above

Answer: D

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2. A mixture of chalk powder and ammonium chloride can be separated by

A. distillation

B. evaporation

C. filtration

D. sublimation

Answer: D

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3. Identify the soft metal among the following

A. iron

B. aluminium

C. magnesium

D. potassium

Answer: D

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4. Which among the following is a bad conductor of electricity?

A. zinc

B. copper

C. aluminium

D. phosphorus

Answer: D

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5. The smallest particle of an element which may or may not have independent existence is called a/an

A. atom

B. molecule

C. compound

D. ion

Answer: A

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6. Which among the following is an element?

A. Calcium oxide

B. Common salt

C. Ozone

D. Water

Answer: C

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7. Evaporation is the process of conversion of

A. a liquid to its gaseous state below the boiling point of the substance.

B. a liquid to its gaseous state at the boiling point of the substance.

C. a solid to its liquid state at the melting point of the substance.

D. a solid to its liquid state below the melting point of the substance.

Answer: A

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8. The most convenient way of separating sawdust from water is

A. distillation

B. evaporation

C. filtration

D. sedimentation and decantation

Answer: C

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9. Which among the following statements is true?

A. Compounds are heterogeneous in nature.

B. The proportion of constituent elements in a compound is fixed.

C. The constituent elements retain their properties in a compound.

D. The formation of a compound is a physical process.

Answer: B

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10. Which of the following is a heterogeneous mixture?

A. A mixture of water and sugar.

B. A mixture of water and common salt.

C. A mixture of water and sawdust.

D. A mixture of water and glucose.

Answer: C

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11. Which among the following is a heterogeneous mixture ?

A. soda water

B. liquid ammonia

C. milk

D. sugar water

Answer: C

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12. Which among the following is a pure substance?

A. dilute sulphuric acid

B. concentrated sulphuric acid

C. aqueous NaCl

D. molten NaCl

Answer: D

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13. Identify the true statement among the following:

A. Gases are highly compressible and diffuse very easily.

B. Gases are highly compressible and possess strong forces

C. Solid molecules are closely packed and highly compressible.

D. Solid molecules are loosely packed and possess strong forces.

Answer: A

14. Property exploited in the usage of perfumes

A. compressibility of gases

B. diffusion of gases

C. expansibility of gases

D. Both (b) and (c)

Answer: D

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15. Baking soda $(NaHCO_3)$ is a compound because

A. the constituents retain their properties.

B. the constituents can be separated by physical methods.

C. the constituents are combined chemically.

D. it is heterogeneous in nature.

Answer: C

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16. Which among the following pairs possess low melting points ?

A. magnesium, mercury

B. mercury, manganese

C. sodium, potassium

D. calcium, manganese

Answer: C

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17. A form of which of the following non-metal is the hardest substance?

A. phosphorus

B. sulphur

C. iodine

D. carbon

Answer: D

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18. Preparation of salt from sea water involves

A. evaporation

B. filtration

C. sedimentation and decantation

D. sublimation

Answer: A

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19. Arrange the following in a proper sequence for the separation of constituents of gun powder

(a) Carbon disulphide is added to the mixture

(b) Carbon powder is separated

(c) Residue is filtered

(d) KNO_3 is separated from its aqueous solution by heating it

(e) Mixture is filtered and hot water is added to the residue

A. 1,5,4,2,3

B. 1,5,3,2,4

C. 1,2,3,4,5

D. None of these

Answer: B

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20. The steps involved in the separation of camphor and sand from a mixture are given below. Arrange them in a proper sequence. (1) The wet cloth is placed over the funnel and

the stem is closed with a cotton plug. (2) The mixture of camphor and sand is taken in the china dish and an inverted funnel is kept on it. (3) The vapours are cooled and condensed to form the same solid and sand left behind in the dish. (4) The mixture is heated gently where the vapours of camphor is formed.

A. 2,3,4,1

B. 4,1,2,3

C. 2,1,4,3

D. 3,4,2,1

Answer: C

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21. Match the following columns

Column A		Column B
A. Distillation	( )	a. One of the component goes into vapour state on heating
B. Filtration	( )	b. Separation of mixture by evaporation and subsequent condensation
C. Sedimentation	( )	c. Insoluble solids can be separated from a liquid
D. Sublimation	( )	d. In a mixture, heavier solid particles are allowed to settle and are separated from clear solution
	( )	e. A mixture of sand and iodine

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22. Match the following columns

Column A		Column B
A. Atom	( )	a. Takes the shape of the container
B. Solid	( )	b. Smallest particle of the matter
C. Liquid	( )	c. Highly compressible
D. Gas	( )	d. Any number of free surfaces
E. Molecule	( )	e. Rigid
		f. Basic building block of the matter

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23. Match the following columns

Column A		Column B
A. Boiling	( )	a. Gas to liquid
B. Melting	( )	b. Solid to gas
C. Condensation	( )	c. Liquid to solid
D. Freezing	( )	d. Liquid to gas
	( )	e. Solid to liquid

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24. Define cohesive and adhesive force.

Watch Video Solution

25. Define melting and boiling points.

Watch Video Solution

26. Name the factors which affect the rate of evaporation.

Watch Video Solution

27. Define atomicity.

Watch Video Solution

28. What is the difference between an element and a compound?

Watch Video Solution

29. Give two examples of metals which can exist can exist in liquid state below $35.^{\circ} C$.

Watch Video Solution

30. What is a metalloid ? Give two examples.

Watch Video Solution

31. What type of metals are found in free state ?

Watch Video Solution

32. Distinguish sublimate from sublime.

Watch Video Solution

33. What is sublimation?

Watch Video Solution

34. What is meant by intermolecular space and intermolecular forces of attraction ?

Watch Video Solution

35. Mention the factors on which the existence of matter in a particular state depends.

Watch Video Solution

36. Distinguish between melting and boiling.

Watch Video Solution

37. "All pure substances are homogenous in nature" Justify.

Watch Video Solution

38. How can the constituents of compounds and mixtures be separated respectively ?

Watch Video Solution

39. Give two examples for sublimable substances.

Watch Video Solution

40. Name any two metals which are poor conductors of electricity

Watch Video Solution

41. Mention the difference between filtrate and residue.

Watch Video Solution

42. Name two elements which have atomicity more than three .

Watch Video Solution

43. Name two states of metter which are fluid.

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Test Your Concepts Short Answer Type Questions

1. Distinguish between evaporation and boiling.

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2. Classify the elements based on atomicity with examples.

Watch Video Solution

3. Distinguish between compounds and mixtures.

Watch Video Solution

4. Explain the suitable method of separation of ammonium chloride from common salt.

Watch Video Solution

5. Explain the process of sedimentation and decantation.

Watch Video Solution

6. What is a homogeneous and a heterogeneous mixture? Give one example for each.

Watch Video Solution

7. Explain classification of matter based on it molecular composition with suitable examples.

Watch Video Solution

8. Complete the following table.

Matter	Dimension	Molecular movement
	Only one free surface	
Solid		
		Spontaneous and rapid diffusion of molecules

Watch Video Solution

9. Explain the factors affecting the rate of evaporation.

 Watch Video Solution

10. Discuss the characteristics of an element

 Watch Video Solution

11. Discuss the characteristics of a mixture

Watch Video Solution

12. Discuss the characteristics of a compound

Watch Video Solution

13. Distinguish between an atom and a molecule. Give example of elements existing as atoms and molecules.

Watch Video Solution

14. Distinguish between malleability and ductility with examples.

Watch Video Solution

15. What is intermolecular force of attraction? Mention two types of intermolecular force of attraction acting between molecules.

Watch Video Solution

16. What is diffusion? Give one application.

Watch Video Solution

17. Give schematic representation of classification of matter based on its composition.

Watch Video Solution

18. Describe the process of separation of the components of a mixture of iron filings, sand

and camphor.

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Test Your Concepts Essay Type Questions

1. Compare solids, liquids and gases with respect to their physical properties.

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2. Physical properties of metals and non metals

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3. Explain the following methods of separation with a suitable example.

distillation

Watch Video Solution

4. Explain the following methods of separation with a suitable example.

filtration

Watch Video Solution

5. Explain different processes of interconversions of states of matter.

Watch Video Solution

6. Describe the process of separation of constituents of gun powder.

Watch Video Solution

7. Give reasons for the

Leaves of plants appear to wilt in summer afternoons.

Watch Video Solution

8. Give reasons for the

When a perfume is sprayed on hand, we feel cool.

Watch Video Solution

9. Give reasons for the

Leaves of submerged aquatic plants contain wax coating.

Watch Video Solution

10. Give reasons for the

Perspiration is greater in coastal areas than in non-coastal areas.

Watch Video Solution

11. Explain sublimation with a suitable example.

Watch Video Solution

12. Compare three different states of matter with respect to the arrangement of molecules and their related parameters.

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Concept Application Level 1

1. Intermolecular space is maximum in gases.

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2. Metals are highly ductile but non-malleable.

 Watch Video Solution

3. Evaporation is a surface phenomenon.

 Watch Video Solution

4. A pure substance is homogeneous in nature.

 Watch Video Solution

5. Tellurium shows the properties of both metals and non-metals.

Watch Video Solution

6. Iodine is a lustrous metal.

Watch Video Solution

7. Sodium floats on water.

Watch Video Solution

8. Ammonium chloride is a sublimable substance.

Watch Video Solution

9. The componenets of compound are separated by physical processes.

Watch Video Solution

10. Sublimation is the process of the conversion of a solid to its liquid state.

Watch Video Solution

11. _____is a surface phenomenon, whereas boiling is a_____

Watch Video Solution

12. _____state of matter is incompressible.

Watch Video Solution

13. A pure substance is __ in nature.

Watch Video Solution

14. __ is a lustrous non-metal.

Watch Video Solution

15. Generally, the components of a compound are separated by __

Watch Video Solution

16. ___ is the non-metal which is a good conductor of electricity.

Watch Video Solution

17. _____in humidity increases rate of evaporation.

Watch Video Solution

18. A mixture of two solids is generally _____while a mixture of any number of gases is _____

Watch Video Solution

19. A mixture of iron filings and sand can be separated by

Watch Video Solution

20. _____and ____ are the suitable separation methods for mixtures of soluble solids in liquids.

Watch Video Solution

21. Identify the wrong statement among the following:

A. Molecules of solids possess only vibratory motion.

B. Solids are incompressible.

C. Solids have only one free surface.

D. Gases are highly diffusible.

Answer: C

Watch Video Solution

22. The atomicity of which among the following is the maximum?

A. helium

B. fluorine

C. ozone

D. sulphur

Answer: D

Watch Video Solution

23. Match the following columns

Column A		Column B
(A) Sublimation	( )	(a) NaCl + water
(B) Filtration	( )	(b) Iodine + sand
(C) Evaporation	( )	(c) Sawdust + water

A. A-a ,B-c C-b

B. A-c ,B-a C-b

C. A-c ,B-b C-a

D. A-b ,B-c C-a

Answer: D

Watch Video Solution

24. Which of the following is a true statement regarding mixtures?

A. They have variable composition.

B. Mixtures are always homogeneous.

C. Mixtures are always heterogeneous.

D. None of the above.

Answer: A

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25. A drop of water contains_____

A. 2 atoms of hydrogen and 1 atom of oxygen.

B. 1 molecule of hydrogen and 1 atom of oxygen.

C. millions of molecules of water.

D. 1 molecule of hydrogen and 1 molecule of oxygen.

Answer: C

 Watch Video Solution

26. Germanium is a _____

A. gas

B. metal

C. liquid

D. metalloid

Answer: D

 Watch Video Solution

27. The process of separation of components of muddy water is

A. decantation

B. sublimation

C. magnetic separation

D. None of the above

Answer: A

Watch Video Solution

28. Lime water is a _____

A. mixture

B. element

C. compound

D. All the above

Answer: A

Watch Video Solution

29. Water sticks to glass due to_____

A. adhesive forces between water and glass.

B. cohesive forces between water and glass.

C. cohesive forces between water molecules.

D. cohesive forces between glass molecules.

Answer: A

Watch Video Solution

30. The temperature at which solid changes to liquid is called

A. melting point

B. boiling point

C. evaporation

D. condensation

Answer: A

Watch Video Solution

31. A homogeneous mixture among the following is

A. milk

B. muddy water

C. smoke

D. air

Answer: D

Watch Video Solution

32. The false statement among the following is

A. every pure substance is homogeneous in nature.

B. in compounds the constituents do not retain properties.

C. the constituents of a mixture can be separated by physical method.

D. during formation of mixtures, there is a change in the molecular composition.

Answer: D

View Text Solution

33. Which among the following has strong forces of attraction ?

A. hydrogen chloride

B. bromine

C. fluorine

D. chlorine

Answer: B

Watch Video Solution

34. Gases form homogeneous mixture due to their

A. diffusiblity

B. high compressibility

C. expansibility

D. low density

Answer: A

Watch Video Solution

35. Washing soda (Na_2CO_3) is a compound because the constituents combine

A. chemically in fixed ratio by weight.

B. chemically in any ratio by weight.

C. physically in fixed ratio by weight.

D. physically in any ratio by weight.

Answer: A

Watch Video Solution

36. Which among the following pairs of substances has strong intermolecular forces of attraction?

A. bromine, mercury

B. gallium, bromine

C. bromine, sodium

D. carbon, potassium

Answer: D

 Watch Video Solution

37. Among the following which is a pair of soft metals ?

A. sodium, potassium

B. potassium, magnesium

C. magnesium, calcium

D. calcium, manganese

Answer: A

Watch Video Solution

38. Identify the odd one among the following with respect to tensile strength as well as ductility.

A. gas carbon

B. diamond

C. graphite

D. carbon fibre

Answer: D

 Watch Video Solution

39. A mixture contains three components namely glucone-D, water and sand. These three can be collected separately by

A. filtration and evaporation.

B. filtration and sublimation.

C. filtration and distillation.

D. sedimentation and decantation.

Answer: C

Watch Video Solution

40. Identify the false statement among the following.

A. Evaporation is a surface phenomenon and causes cooling.

B. Rate of evaporation is directly proportional to temperature.

C. Rate of evaporation is inversely proportional to surface area of a liquid.

D. Evaporation causes cooling and depends on humidity.

Answer: C

View Text Solution

41. Separation of sawdust from water can be carried out by the following steps given below. Arrange them in a proper sequence.

(1) The mixture is poured gently into the filter cone and collected in another beaker which is called filtrate. (2)A mixture of sawdust and water is taken in a beaker. (3) A filter paper is folded in the form of a cone and fitted into a funnel by moistening it with a few drops of Water. (4) Solid retained on the filter paper is called residue.

A. 3,1,2,4

B. 1,2,3,4

C. 3,4,2,1

D. 2,3,1,4

Answer: D

Watch Video Solution

42. Match the following columns

Column A		Column B
A. Sodium	( )	a. Homogeneous mixture
B. Sodium chloride	( )	b. Element
C. Sulphur in water	( )	c. Compound
D. Sugar in water	( )	d. Heterogeneous mixture
	( )	e. Impure compound

Watch Video Solution

43. Match the following columns

Column A		Column B
A. Boiling	( )	a. Water changes to ice
B. Melting	( )	b. Water vapour changes to water
C. Condensation	( )	c. Ice changes to water
D. Freezing	( )	d. Water changes to water vapour
	( )	e. Ice changes to water vapour

Watch Video Solution

44. Match the following columns

Column A		Column B
A. Distillation	( )	a. Mixture of sodium chloride and ammonium chloride
B. Filtration	( )	b. Mixture of sodium chloride and water
C. Sublimation	( )	c. Mixture of sawdust and water
D. Sedimentation	( )	d. Mixture of iron and sulphur
E. Magnetic separation	( )	e. Mixture of sand and water

Watch Video Solution

Concept Application Level 2

1. Water shows concave meniscus in a narrow glass tube. This is because

A. adhesive force is stronger than cohesive force.

B. adhesive force is weaker than cohesive force.

C. cohesive and adhesive forces are equal.

D. of the absence of adhesive force.

Answer: A

Watch Video Solution

2. Iron powder and powder of rust are taken in two containers X and Y, respectively. Dilute sulphuric acid is added to both the containers. Then

A. effervescence is observed in both the containers.

B. effervescence is observed in case of X but not Y.

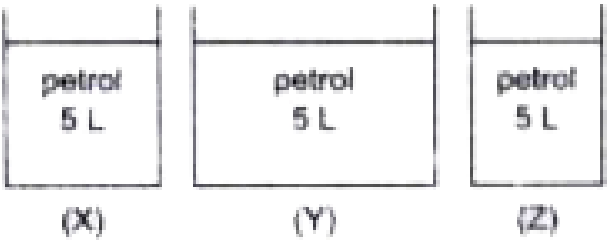
C. effervescence is observed in case of Y but not X.

D. no effervescence is observed in both the cases.

Answer: B

Watch Video Solution

3. X, Y and Z containers are placed at 25° C. Then, decrease in temperature is more in___



A. X

B. Y

C. Z

D. Cannot be predicted.

Answer: B

Watch Video Solution

4. The interconversion involved in usage of .odonil.in a washroom is

A. sublimation nation

B. deposition

C. melting

D. freezing

Answer: A

Watch Video Solution

5. Dogs stretch out tongues generally in summer because

A. evaporation leads to cooling.

B. of condensation of water vapour.

C. of freezing of saliva.

D. their body temperatures are high.

Answer: A

Watch Video Solution

6. A mixture contains three components namely camphor powder, common salt and water. These can be separated by

A. filtration and distillation.

B. filtration, sedimentation and decantation.

C. sublimation and distillation.

D. sublimation, sedimentation and decantation.

Answer: A

Watch Video Solution

7. Thermal expansion of solids is the least among the three states of matter due to

A. high kinetic energy of molecules of solids.

B. close packing of molecules in solids.

C. the vibratory motion and rotatory motion of molecules of solids.

D. the large intermolecular space present in solids.

Answer: B

Watch Video Solution

8. Water shows convex meniscus in narrow _____ and _____ tubes.

A. glass, plastic

B. glass, wax-coated glass

C. wax-coated glass, plastic

D. plastic, coloured glass

Answer: C

Watch Video Solution

9. Among the following, a pair of a compound and an element respectively is

A. iron powder and rust powder.

B. rust powder and iron powder.

C. lime and rust powder.

D. rust powder and lime.

Answer: B

10. Rate of evaporation of water

A. is more in coastal areas than in non-coastal areas.

B. is more in non-coastal areas than in coastal areas.

C. is the same in both coastal and non-coastal areas.

D. Cannot be predicted.

Answer: B

 Watch Video Solution

11. Sublimation is involved in

A. incense stick and odonil.

B. camphor and incense stick.

C. perfume and odonil.

D. naphthalene balls and camphor.

Answer: D

Watch Video Solution

12. Sodium catches fire easily and chlorine is a harmful gas. But sodium chloride is indispensable in our daily meal. Give reasons.

Watch Video Solution

13. Sand and sawdust are mixed with water. Name the techniques that can separate sand and sawdust from water.

Watch Video Solution

14. Two test tubes X and Y are filled with water and mercury, respectively. After these two liquids were poured, water drops on the inner

walls of X were observed but no mercury drops in Y were seen. Give reasons.

Watch Video Solution

15. Cotton clothes can be made more easily wer than synthetic clothes. Explain.

Watch Video Solution

16. The thermal expansion of solids is the least among the three states of matter. Explain.

Watch Video Solution

17. Camphor pellets should be preserved in air-tight containers. Give reasons.

Watch Video Solution

18. During summer vacation Ravi decided to go to his grandparent's place at Delhi. Since it was summer, therefore, Ravi's mother advised

him to carry only cotton clothes. Why did she say so? Give reason.

Watch Video Solution

19. Why are droplets of water observed on the outer walls of a glass tumbler containing ice?

Watch Video Solution

20. When Rita opened the perfume bottle in the bed room without the permission of her

mother, how did her mother came to know while watching TV in the drawing room?

Watch Video Solution

21. Jack was getting late for the school, so, his mother advised him to pour hot milk from a glass into a saucer and then drink. Why did she say so? Give reason.

Watch Video Solution

22. Why do we observe fog and mist in winter mornings?

Watch Video Solution

23. When Vasu was running high temperature her mother was nursing him by placing wet cloth on his forehead till temperature has gone down. Justilfy what purpose did the mother's action serve.

Watch Video Solution

24. A student has a mixture consisting of charcoal and sulphur powder. He adds a certain reagent where he observes that one of the component goes into the solution state. Name the techniques by which the components can be separated.

Watch Video Solution

25. Mother took her two daughters Bhavani and Shivani to swimming pool in summer

vacation. They both enjoyed swimming hours together. When they came out of swimming pool, both were shivering and fighting for the towel. Explain the reason for their shivering immediately after they came out of swimming pool.

Watch Video Solution

Concept Application Level 3

1. How is milk powder prepared from milk ?

Watch Video Solution

2. Why is mercury used in a thermometer ? Is it suitable for measuring high temperature ? Name the liquid which can be used for the measurement of high temperatures. Give reasons.

Watch Video Solution

3. Two thermometers A and B are dipped in water and alcohol respectively taken in two

containers of similar dimensions at room temperature. Compare the temperatures shown by these two thermometers giving appropriate reasons.

Watch Video Solution

4. Naturally occurring diamonds are sometimes found in different colours. Give reasons.

Watch Video Solution

Assessment Test Test 1

1. Identify the true statement among the following:

A. The constituents of both a compound and a mixture can be separated by physical methods only.

B. The constituents of both a compound and a mixture can be separated by chemical methods only.

C. The constituents of a compound and a mixture can be separated by chemical and physical methods, respectively.

D. The constituents of a compound and a mixture can be separated by physical and chemical methods, respectively.

Answer: C

View Text Solution

2. Which among the following substances has the strongest intermolecular forces of attraction?

A. steam

B. bromine

C. oxygen

D. hydrogen chloride gas

Answer: A

Watch Video Solution

3. Thermal expansion of solids is the least among the three states of matter due to

A. high kinetic energy of molecules of solids.

B. close packing of molecules in solids.

C. vibratory and rotatory motions of molecules of solids.

D. large intermolecular space present in solids.

Answer: B

Watch Video Solution

4. Assertion (A) : Dogs stretch out their tongues in summer.

Reason (R) : Evaporation leads to cooling.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer: B

 Watch Video Solution

5. Which among the following is a pure substance?

A. dilute sulphuric acid

B. concentrated sulphuric acid

C. aqueous NaCl

D. molten NaCl

Answer: A

 Watch Video Solution

6. Arrange the following examples in the order of matter, compound, element and mixture. (1) dilute acid (2) argon (3) water (4) ball

A. 1, 2, 3, 4

B. 4, 3, 2, 1

C. 1, 2, 4, 3

D. 4, 3, 1, 2

Answer: B

Watch Video Solution

7. Which among the following is a heterogeneous mixture ?

A. soda water

B. air

C. milk

D. sugar water

Answer: D

 Watch Video Solution

8. For the separation of components of a mixture of camphor, filings and sand, arrange the following processes in sequence.

(a) Magnetic separation, (b) Distillation

(c) Sublimation, (d) Sedimentation and decantation

A. 1, 2, 3, 4

B. 2,1

C. 2,4

D. 1,3

Answer: D

Watch Video Solution

9. Match the following.

Column A		Column B
Principle		Procedure
(A) Evaporation	( )	(a) Purification of drinking water which contains suspended matter
(B) Filtration	( )	(b) Earthen pots
(C) Sublimation	( )	(c) Odonil used in a washroom

A. A-a ,B-c,C-b

B. A-c ,B-a,C-b

C. A-c ,B-b,C-a

D. A-b ,B-a,C-c

Answer: C

Watch Video Solution

Watch Video Solution

10. Property responsible for spreading of fragrance of flower is _____ .

A. compressibility of gas/vapour

B. diffusion of gas/vapour

C. expansibility of gas/vapour

D. Both (b) and (c)

Answer: D

Watch Video Solution

11. Assertion (A) : Baking soda $(NaHCO_3)$ is a compound.

Reason (R) : Properties $NaHCO_3$ are absolutely different from sodium, carbon, hydrogen and oxygen.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer: B

 Watch Video Solution

Assessment Test Test 2

1. Identify the true statement among the following.

A. Both compounds and mixtures are homogeneous.

B. Both compounds and mixtures are heterogeneous.

C. Compounds are homogeneous and mixtures are heterogeneous.

D. Compounds are homogeneous and mixtures can be homogeneous or heterogeneous.

Answer: D

View Text Solution

2. Identify the true statement among the following:

A. Gases are highly compressible and diffuse very easily.

B. Gases possess strong intermolecular forces of attraction.

C. Solids are highly compressible.

D. Solid molecules are loosely packed.

Answer: B

View Text Solution

3. Assertion (A) : Rate of evaporation is less in rainy season.

Reason (R) Rate of evaporation is directly proportional to humidity.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer: D

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4. Identify the false statement among the following:

A. A compound is homogeneous in nature

B. In a compound, constituents do not retain their properties.

C. The constituents of a mixture can be separated by physical method.

D. During formation of mixtures there is a change in the molecular composition.

Answer: D

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5. Arrange the following substances in the ascending order of the number of constituent element(s) present in them.

(1) sodium bicarbonate (2) calcium carbonate (3) water (4) copper

A. 4, 3, 2, 1

B. 3, 2, 1, 4

C. 4, 1, 2, 3

D. 1, 2, 3, 4

Answer: A

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6. For the separation of the components of a mixture of iodine, iron filings and sawdust arrange the processes in a sequential order. (1) The mixture is covered with an inverted funnel. The outside surface of the funnel is wrapped with a moist filter paper and the mixture is gently heated. Iodine is separated. (2) A strong bar magnet is moved through the mixture. The iron filings are separated. (3) Sawdust is left

after iodine separates. (4) The mixture is exposed to wind to remove sawdust.

A. $2, 1, 3$

B. $4, 2, 1$

C. $4, 3, 1$

D. $1, 4, 3$

Answer: C

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7. Among the following, a pair of a compound and an element respectively is

A. iron powder and rust powder.

B. rust powder and iron powder.

C. lime and rust powder.

D. rust powder and lime.

Answer: D

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8. Match the following:

Column A		Column B
(A) Sublimation	( )	(a) Copper sulphate and water
(B) Filtration	( )	(b) Sawdust and water
(C) Evaporation	( )	(c) Iodine and sand
(D) Magnetic separation	( )	(d) Common salt from sea water
(E) Distillation	( )	(e) Iron and sulphur

A. $A - c, B - b, C - d, D - e, E - a$

B. $A - c, B - d, C - b, D - e, E - a$

C. $A - d, B - e, C - c, D - a, E - b$

D. $A - b, B - a, C - d, D - e, E - c$

Answer: D

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9. Assertion (A) : Washing soda (Na_2CO_3) is a compounds.

Reason (R) : Sodium retains its property in washing soda.

A. Both A and R are true and R is the correct explanation for A.

B. Both A and R are true but R is not the correct explanation for A.

C. A is true and R is false.

D. A is false and R is true.

Answer: A

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