



CHEMISTRY

BOOKS - CENGAGE CHEMISTRY

NATURE OF MATTER

Mandatory Exercise Exercise Set I

1. Which is a sublimable solid among the following?

A. Coal

B. Sodium chloride

C. Iodine

D.

Answer: C



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2. Which state of matter has the strongest forces between the particles?

A. Solid

B. Liquid

C. Gas

D. Forces between the particles are the same in each case

Answer: A



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3. The melting point of bromine is $-7^{\circ}C$ and its boiling point is $59^{\circ}C$. What is the state of bromine at room temperature

A. Solid

B. Liquid

C. Gas

D. Mixture of liquid and gas

Answer: B



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4. What is different between $H_2O(s)$ and $H_2O(g)$?



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5. Compare Intermolecular force of attraction strength between $Br_2(l)$ and $Br_2(g)$.



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6. Define Triple point

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7. What is the condition of pressure and temperature for sublimation of a solid?

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8. Why CO_2 exist in gas state at room temperature and normal atmospheric pressure?

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9. Which of the following generally highest density for same matter?

A. Solid

B. Liquid

C. Gas

D. All have same

Answer: A



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10. What is the relation between freezing point and melting point?



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11. Which of the following is molecular element



Answer:



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12. Which of the following is diatomic gas?

A. Ammonia

B. Water

C. Carbon monoxide

D. Phosphine

Answer: A



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13. Cuprum is Latin name of which element

A. Fe

B. Cu

C. Ni

D. Pb

Answer: C



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14. What is the symbol of element Tungsten

A. Tu

B. Tg

C. W

D. Hg

Answer: B



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15. Which of the following element exist in polyatomic form?

A. Sodium

B. Aluminium

C. Krypton

D. Sulphur

Answer: C



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16. The atomicity of S, not found in nature is

A. 2

B. 4

C. 8

D. 5

Answer: D



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17. Match the column

Element	Latin Name
(A) Tungsten	(P) Wolfrum
(B) Mercury	(Q) Plumbum
(C) Lead	(R) Stibium
(D) Antimony	(S) Hydragyrum

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18. What is different between colloid and true solution?

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19. In which of the following dispersed phase is liquid

A. Smoke

B. Volcanic dust

C. Fog

D. point

Answer: C



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20. In which of the following dispersion medium in gas

A. Cloud

B. Fog

C. Smoke

D. All of these

Answer: D



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21. Which of the following is Lyophilic colloid?

A. gum

B. gold sol

C. sulphur Sol

D. Fe_2O_3

Answer: A



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22. Which of the following is Lyophobic colloids?

A. Gelatine

B. starch

C. proteins

D. gold sol

Answer: D



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23. Which of the following is Not the properties of a colloidal solution?

A. Homogeneous

B. Tyndall effect

C. Electrophoresis

D. scattering of light

Answer: A



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24. Which of the following is not colloidal solution?

A. Sugar syrup

B. soap

C. milk

D. All

Answer: A



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Mandatory Exercise Exercise Set II

1. Which of the following is a compound?

A. Neon

B. Gold

C. Ammonia

D. Argon

Answer: C



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2. Which of the following metals is called Natrium in Latin?

A. Nickel

B. Sodium

C. Calcium

D. Chromium

Answer: B



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3. The atomicity of sulphur is

A. 4

B. 6

C. 8

D. 2

Answer: C



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4. Which one of the following is diatomic?

A. Oxygen

B. Ozone

C. Sulphur

D. Argon

Answer: A



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5. Match the following:

A

- (1) Hydragyrum
- (2) Soap
- (3) Ozone
- (4) Barium
- (5) Blood

B

- (a) Mixture
- (b) Pure substance
- (c) Mercury
- (d) Homonuclear molecule
- (e) Compound



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6. Explain the cleaning action of detergent



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7. Which of the following is not used for separation of solid - solid mixture?

- A. Sublimation
- B. Solvent extraction
- C. Chromatography
- D. Winnowing

Answer: C



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8. Which of the following based on difference in size?

A. Sublimation

B. Solvent extraction

C. Filtration

D. Fractional distillation

Answer: C



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9. Fractional distillation method is based on difference in of two liquids.

A. M.P.

B. B.P.

C. solubility

D. None

Answer: B



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10. The evaporation, residue left is

A. Solvent

B. Soluble solid

C. both

D. None

Answer: B



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11. Mixture of water and C_2H_5OH can be separated to a certain limit by

- A. Sublimation
- B. Evaporation
- C. Fractional distillation
- D. Centrifugation

Answer: C



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12. What is the basic difference between sedimentation and evaporation?



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13. Which of the following combination of colloids is not possible?

A. Solid in liquid

B. Liquid in solid

C. Gas in gas

D. Gas in liquid

Answer: C



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14. Why colloids becomes unstable in presence of ionic electrolyte?



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15. What is reversible colloids



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16. What are Intrinsic and extrinsic colloids?

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17. Relate Brownian movement and stability of colloids.

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18. Why large number of medicines are colloids in nature?



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19. What is molecular element? Explain.



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20. Law of constant composition is applied in case of

A. Compound

B. Mixture

C. Both

D. None

Answer: A



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21. Which of the following is example of Homogenous mixture?

A. Blood

B. Milk

C. Alloy

D. All

Answer: C



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22. Assume air contains only Nitrogen, Oxygen and Inert gas. Then air will be

A. Compound

B. Homogeneous mixture

C. Heterogeneous mixture

D. Colloids

Answer: B



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23. In case of Homogenous mixture, density will be highest __ part of sample.

A. upper

B. lower

C. middle

D. All

Answer: D



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24. If addition of a solid in a liquid make homogeneous mixture, then solid will be

A. soluble

B. Insoluble

C. Partial soluble

D. all

Answer: A



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Mandatory Exercise Olympiad And Ntse Level Exercises

1. Which one of the following sets of phenomena would increase on raising the

temperature?

A. Evaporation, diffusion, expansion of
gases

B. Evaporation, compression of gases,
solubility

C. Diffusion, evaporation, compression of
gases

D. Evaporation, solubility, diffusion,
compression of gases

Answer: A



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2. During summer, water kept in an earthen pot becomes cool because of the phenomenon of

A. osmosis

B. evaporation

C. diffusion

D. transpiration

Answer: B



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3. A few substances are arranged in the increasing order of 'forces of attraction' between their particles. Which one of the following represents a correct arrangement?

A. Air, sugar, oil

B. Water, air, wind

C. Salt, juice, air

D. Oxygen, water, sugar

Answer: D



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4. In which of the following conditions, the distance between the molecules of hydrogen gas would increase?

(i) Increasing pressure on hydrogen contained in a closed container

(ii) Some hydrogen gas leaking out of the container

(iii) Increasing the volume of the container of

hydrogen gas

(iv) Adding more hydrogen gas to the container without increasing the volume of the container

A. (ii) and (iii)

B. (ii) and (iv)

C. (i) and (iii)

D. (i) and (iv)

Answer: A



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5. A mixture of sulphur and carbon disulphide is

A. heterogeneous and shows Tyndall effect

B. homogeneous and shows Tyndall effect

C. homogeneous and does not show Tyndall effect

D. heterogeneous and does not show Tyndall effect

Answer: C



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6. Tincture of iodine has antiseptic properties.

This solution is made by dissolving

A. iodine in alcohol

B. iodine in vaseline

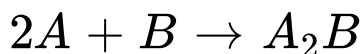
C. iodine in water

D. iodine in potassium iodide

Answer: A



7. Two substances, A and B were made to react to form a third substance, A_2B according to the following reaction



Which of the following statements concerning this reaction are incorrect?

- (i) The product A_2B shows the properties of, substances A and B
- (ii) The product will always have a fixed composition

(iii) The product so formed cannot be classified as a compound

(iv) The product so formed is an element

A. (i), (ii) and (iii)

B. (i), (iii) and (iv)

C. (ii), (iii) and (iv)

D. (ii), (iii) and (iv)

Answer: B



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8. Two chemical species X and Y combine together to form a product P which contains both X and Y



X and Y cannot be broken down into simpler substances by simple chemical reactions.

Which of the following concerning the species

X, Y and P are correct?

(i) P is a compound

(ii) X and Y are compounds

(iii) X and Y are elements

(vi) P has a fixed composition

A. (i), (iii) and (iv)

B. (i), (ii) and (iv)

C. (ii), (iii) and (iv)

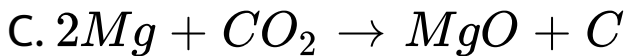
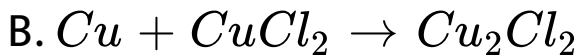
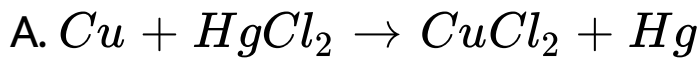
D. (i), (ii) and (iii)

Answer: A

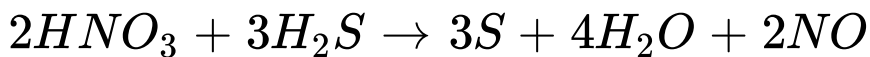


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9. Which of the following reactions leads to the formation of a substance in the colloidal state



D.



Answer: D



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10. On adding few drops of dilute HCl or $FeCl_3$ to freshly precipitated ferric hydroxide a red coloured colloidal solution is obtained.

The phenomenon is known as

- A. Peptisation
- B. Dialysis
- C. Protective action
- D. Dissolution

Answer: A



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