

1. A substance "X" has one free surface. The physical state of 'X' is
(A) Solid (B) Liquid (C) Gas (D) Cannot be predicted
2. Consider the following statements
i. Kinetic energy of particle in solid state > in liquid state
ii. Inter particle space in gaseous state > in liquid state
iii. Force of attraction between particle in liquid state > in solid state
iv. Solids can have many free surfaces
Correct statements among the above are
(A) i, ii (B) ii, iii (C) i, iii (D) ii, iv
3. Identify the incorrect statement
(A) Gases are more compressible than solids or liquids
(B) Density of iron nail is more than liquid iron
(C) Water vapour cannot be compressed
(D) Carbondioxide occupies the whole volume available
4. Diffusion is dependent on
(A) Molecular mass of substance
(B) Physical state of substance
(C) Temperature of the substance
(D) All the above factors
5. ICE $\xrightarrow{0^{\circ}\text{C to } 4^{\circ}\text{C}}$ Water
i. K.E. of particles increases
ii. Volume increases
iii. Volume decreases
iv. K.E. of particles decreases
(A) i, ii, iii (B) ii, iii, iv (C) ii, iv (D) i, iii
6. Latent heat of fusion is used to
(A) Increase K.E. of solid particles
(B) Decrease K.E. of solid particles
(C) Over come force of attraction between solid particles
(D) Increase temperature of solid
7. Which of the following processes involves absorption of heat energy?
i. Melting ii. Condensation iii. Evaporation
iv. Liquification v. Sublimation
(A) i, ii, iii, iv (B) ii, iii, iv, v (C) i, iii, v (D) ii, iv
8. Correct relation between C° and F° scales is
(A) $^{\circ}\text{C} = 9/5(^{\circ}\text{F} - 32)$ (B) $^{\circ}\text{F} = 9/5^{\circ}\text{C} + 32$
(C) $^{\circ}\text{F} = 9/5(^{\circ}\text{C} + 32)$ (D) $^{\circ}\text{C} = 5/9^{\circ}\text{F} - 32$
9. Boiling point of ethyl alcohol is 75°C . What is its Boiling point Kelvin scale?
(A) 348 K (B) 345 K (C) 373 K (D) 375 K
10. The sample of gas exhibiting highest diffusion is
(A) Methane (B) Ammonia (C) Oxygen (D) Ethane
11. A sample of sea water was collected. It was filtered to remove all suspended impurities and its boiling point is observed to be
(A) 101.5°C (B) 100°C (C) 98°C (D) 99.5°C
12. Which of the following substance is anisotropic in nature?
(A) Glass (B) Coal tar (C) Common salt (D) Mercury

13. When pressure is applied to Ice \rightleftharpoons H₂O system, which of the following is expected to happen?
 (A) More ice is formed (B) More water is formed
 (C) Ice turns to vapour (D) Water turns to vapour
14. Latent heat of vaporisation of water is 22.5×10^5 kJ/kg. Calculate the mass of water converted to steam if 225 kJ heat energy is supplied at boiling point.
 (A) 1 gm (B) 0.01 gm (C) 0.1 gm (D) 10 gm
15. Identify the incorrect statement
 (A) Ice is better coolant than water at 0⁰ C
 (B) Water is better coolant than ice at 0⁰ C
 (C) Heat content of water is more than steam at 100⁰ C
 (D) Steam is best coolant at 100⁰ C
16. Pressure cooker reduces cooking time because
 (A) The heat is more easily distributed
 (B) The heat is evenly distributed
 (C) Boiling point of water is 100⁰ C
 (D) Boiling point of water is more than 100⁰ C
17. Correct statement about evaporation is
 i. Evaporation causes heating ii. Evaporation causes cooling
 iii. Evaporation is a surface phenomenon iv. Evaporation is a bulk phenomenon
 (A) i, ii (B) ii, iii (C) iii, iv (D) i, iv
18. In the hill station boiling point of water decreases because
 (A) Decrease in atmosphere pressure (B) Increase in atmosphere pressure
 (C) No change in atmospheric pressure (D) Decrease in atmosphere temperature
19. Which of the following does not effect rate of evaporation?
 (A) Molecular mass of liquid (B) Inter molecular force of attraction
 (C) Humidity (D) Surface area of liquid
20. Water rises up in a capillary tube because of
 (A) Cohesive force (B) Adhesive force (C) Gravitation force (D) Coulombic force
21. The surface of water in a narrow glass tube or test tube is
 (A) Concave (B) Convex (C) Plane (D) Curved
22. On freezing which of the following substance undergo expansion
 (A) Iron (B) Wax (C) Water (D) Ghee
23. Identify the incorrect statement about a Boiling liquid at its Boiling point
 (A) Latent heat of vapourisation is absorbed (B) Kinetic energy increases continuously
 (C) Temperature remains constant (D) Heat content increases
24. Steam causes severe burns than boiling water at 100⁰ C because
 (A) Steam has lesser K.E. than water
 (B) Steam is cooler than boiling water
 (C) Steam has more heat constant than boiling water
 (D) Boiling water has more heat constant than steam
25. Freezing point of sea water is
 (A) Less than 0⁰ C (B) More than 0⁰ C
 (C) Equal to 0⁰ C (D) Cannot be predicted

KEY

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|-------|-------|-------|-------|-------|
| 1. B | 2. D | 3. C | 4. D | 5. D |
| 6. C | 7. C | 8. B | 9. A | 10. A |
| 11. A | 12. C | 13. B | 14. C | 15. A |
| 16. D | 17. B | 18. A | 19. A | 20. B |
| 21. A | 22. C | 23. B | 24. C | 25. A |