

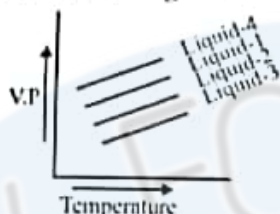
CHEMISTRY NMDCAT

(UNIT-4)

TOPICS

- ✓ LIQUIDS
- ✓ SOLIDS

Q.1 Consider the following graph of vapour pressure Vs temperature, which of the following liquid have stronger intermolecular forces?



- a. Liquid-1
b. Liquid-2
c. Liquid-3
d. Liquid-4
- Q.2 Which of the following does not favors the increasing of vapor pressure?
a. Increasing temperature
b. Increasing surface area
c. Decreasing intermolecular forces
d. All of these
- Q.3 In order to mention boiling point of water at 110°C , the external pressure should be
a. Between 760 torr to 1200 torr
b. 760 torr
c. Between 200 torr to 760 torr
d. Any value of pressure
- Q.4 Which of the following is pseudo solid?
a. Graphite
b. Rubber
c. NaCl
d. All of these
- Q.5 In NaCl there are 8 Cl^- ions at each corner of the cube. Each Cl^- ion is shared among _____ unit cells
a. Two
b. Four
c. Eight
d. Six
- Q.6 Smallest unit of volume of a crystal, which shows all the properties of its pattern, is known as a _____
a. Crystal Lattice
b. Unit cell
c. Unit length
d. Crystallite
- Q.7 The systematic arrangement of atoms in a crystal is called lattice. It represents the structure of any substance, a lattice is of _____ types
a. Two
b. Three
c. Four
d. Five
- Q.8 Which of the following factors affect the shape of an ionic solid
a. Electrostatic forces of attraction
b. Radius ratio
c. Poor conductivity
d. All of these
- Q.9 To form a crystal lattice of NaCl, each Na^+ ion is surrounded by _____
a. 6 Cl
b. 6Cl^+
c. 6Cl^-
d. 6Cl^-
- Q.10 Which of the following intermolecular forces hold the molecules together in solidified gases
a. Hydrogen bonding
b. Dipole-dipole interactions
c. Van der Waals forces
d. All of these

- Q.11 The amount of energy released when gaseous ions of opposite charges combine to give one mole of a crystalline ionic compound is known as
 a. Bond energy
 b. Potential energy
 c. Lattice energy
 d. Kinetic energy
- Q.12 The existence of an element in different crystalline forms is called
 a. Polymorphism
 b. Isomorphism
 c. Anisotropy
 d. Allotropy
- Q.13 In ice hydrogen bonds hold water molecules in rigid but open _____ structure
 a. Cubic
 b. Hexagonal
 c. Triclinic
 d. Tetragonal
- Q.14 Water has high heat of vaporization due to extensive _____
 a. Covalent bonds
 b. Ion dipole forces
 c. Hydrogen bonding
 d. Debye forces
- Q.15 Under 50 torr pressure glycerin boils at a temperature _____
 a. More than 290°C
 b. Less than 290°C
 c. Less than 200°C
 d. Equal to 210°C
- Q.16 The molecules of I_2 _____
 a. Simple cubic crystal
 b. Body centered cubic crystal
 c. Face centered cubic crystal
 d. Hexagonal close pack crystal
- Q.17 Iodine is non-polar molecule, it exists as _____ at room temperature
 a. Solid
 b. Gas
 c. Liquid
 d. Plasma
- Q.18 Factor on which evaporation depends but vapour pressure does not
 a. Temperature
 b. Surface area
 c. Intermolecular forces
 d. Nature of liquid
- Q.19 Which of the following is true?
 a. HF has strongest hydrogen bond and higher boiling point than water
 b. HF has strongest hydrogen bond and has low boiling point than water
 c. HF has strongest hydrogen bond and has boiling point equal to water
 d. None is true
- Q.20 Water has maximum density at _____
 a. 39.2°F
 b. 0°F
 c. 4°F
 d. 32°F
- Q.21 The molecules of sucrose form the _____
 a. Ionic crystals
 b. Molecular crystals
 c. Covalent crystals
 d. Metallic structure
- Q.22 Which of the following is non-polar molecular solid with strongest intermolecular forces
 a. Ice
 b. Iodine
 c. Glucose
 d. Graphite
- Q.23 Molecular solids have _____
 a. Ionic bond
 b. Metallic bond
 c. Covalent bond
 d. Van der Waal's forces



- Q.24** Hydrogen bonding is most effective in
a. NH_3 b. $\text{C}_2\text{H}_5\text{OH}$
c. H_2O d. HF
- Q.25** Ice is less dense than water at
a. -4°C b. 4°C
c. 0°C d. 2°C
- Q.26** In diamond each C-atom is bonded to four 'C' atoms through _____ at an angle of _____
a. sp-sp overlapping, 109.5° b. sp^2-sp^2 overlapping 109.5°
c. sp^3-sp^3 overlapping, 109.5° d. sp^3-sp^2 overlapping, 109.5°
- Q.27** Type of attractive forces in dry ice
a. Ionic bond b. Coordinate covalent bond
c. Covalent bond d. London dispersion forces
- Q.28** Which of the following is not molecular solid?
a. Sucrose b. Graphite
c. Iodine d. Ice
- Q.29** Diamond is bad conductor because
a. It has tight structure
b. It has high density
c. There are no free electrons present in crystal of diamond to conduct electricity
d. It is transparent to light
- Q.30** Acetone and chloroform are soluble in each other due to
a. Intermolecular hydrogen bonding b. Instantaneous dipole
c. Ion-dipole interaction d. All of the above
- Q.31** NH_3 show a maximum boiling point among hydride of VA group elements due to
a. Very small size of nitrogen
b. Lone pair of e^- present on nitrogen
c. Enhanced electronegative character of nitrogen
d. Pyramidal structure of NH_3
- Q.32** The liquid which has maximum rate of evaporation at same temperature.
a. CCl_4 b. $\text{C}_2\text{H}_5\text{OH}$
c. CH_3COCH_3 d. C_6H_6
- Q.33** Which of the following statements is correct about ionic solids?
a. They have definite geometric shape
b. They are non-directional in nature
c. They do not exist in the form of molecules due to their ionic nature
d. All of these
- Q.34** Which of the following solids possess covalent bond, hydrogen bond and London dispersion forces
a. Dry ice b. Silicones
c. Silica d. Ice
- Q.35** The corner located Na^+ ion in the unit cell of NaCl is shared among _____ unit cells
a. 4 b. 8
c. 6 d. 10



- Q.36 When the external pressure is increased from 23.7 torr to 700 torr, the boiling point of water increases from.
- a. 0°C to 98°C
b. 25°C to 100°C
c. 69°C to 98°C
d. 25°C to 98°C
- Q.37 Which of the following is polar molecular solid
- a. Diamond
b. Ice
c. Iodine
d. Table salt
- Q.38 The substance that contains London dispersion forces only
- a. Phenol
b. Benzene
c. Acetone
d. Chloroform
- Q.39 Which of the following has highest boiling point
- a. Kr
b. Xe
c. Ne
d. Ar
- Q.40 The hexagonal type empty spaces are present in the structure of ice. This is due to hydrogen bonding present between _____ atom of one water molecule and _____ atom of other water molecule
- a. H, H
b. H, N
c. H, O
d. O, O
- Q.41 I-I bond distance in crystal of iodine is
- a. 271.5 pm
b. 266.6 pm
c. 4.9 pm
d. 9.6 pm
- Q.42 The external pressure required for boiling the water at room temperature is
- a. 1489 torr
b. 23.7 torr
c. 700 torr
d. 323 torr
- Q.43 Which of the following are generally poor conductors of electricity
- a. Ionic solids
b. Covalent solids
c. Metallic solids
d. Molecular solids
- Q.44 Crystalline solids in which the particles forming the crystals are positively and negatively charged ions are called
- a. Ionic solids
b. Covalent solids
c. Metallic solids
d. Molecular solids
- Q.45 In which of the following pairs of liquids, the first liquid has higher vapour pressure than the other liquid at the same temperature with the different surface area
- a. Dimethyl ether and acetone
b. Ethanol and Ammonia
c. Water and HF
d. Water and n-hexane
- Q.46 Which one of the following arrangements usually represents the correct order of increasing strength?
- a. H-Bonding, London dispersion force, Dipole-Dipole force
b. London dispersion force, Dipole-Dipole force, H-bonding
c. London dispersion force, H-Bonding, Dipole-Dipole force
d. Dipole-Dipole force, London dispersion force, H-bonding
- Q.47 Which of the following process involves a weakening of the attraction between particles?
- a. Condensation
b. Freezing
c. Crystallization
d. Evaporation
- Q.48 The food is cooked quickly in pressure cooker because
- a. Heat is uniformly distributed
b. Boiling point of water rises
c. Boiling point of water decreases
d. Vapour pressure of liquid decreases
- Q.49 At boiling point of a liquid, its vapour pressure becomes
- a. Greater than external pressure
b. Less than external pressure
c. Equal to external pressure
d. No relationship
- Q.50 Hydrogen bonding is involved in
- a. Solubility of compounds
b. Cleansing action of detergents
c. Biological molecules
d. All of these

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|------|------|
| 1-C | 25-C |
| 2-b | 26-C |
| 3-a | 27-d |
| 4-b | 28-b |
| 5-C | 29-C |
| 6-b | 30-a |
| 7-b | 31-C |
| 8-d | 32-C |
| 9-d | 33-d |
| 10-d | 34-d |
| 11-C | 35-b |
| 12-d | 36-d |
| 13-b | 37-b |
| 14-C | 38-b |
| 15-d | 39-b |
| 16-C | 40-C |
| 17-d | 41-a |
| 18-b | 42-b |
| 19-b | 43-d |
| 20-a | 44-a |
| 21-b | 45-a |
| 22-b | 46-b |
| 23-d | 47-d |
| 24-C | 48-b |
| | 49-L |
| | 50-d |

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