Chapter 4rth

LIQUIDS AND SOLIDS

MCQs

Q.1 Ionic solids are characterized by

(a) low melting points

(b) good conductivity in solid state

(c) high vapour pressure

(d) solubility in polar solvents

Q.2 Amorphous solids.

(a) have sharp melting points

(b) undergo clean cleavage when cut with knife

(c) have perfect arrangements of atoms

(d) can presses small regions of orderly arrangements of atoms

Q.3 The force of attraction between the atoms of helium is

(a) hydrogen bonding

(b) coordinate covalent bond

(c) covalent bond

(d) london dispersion force

Q.4 **Which of the following is a pseudo-solid**

(a) CaF2 (b) Glass

(c) NaCl (d) All

Q.5 Diamond is a bad conductor because

(a) It has a tight structure (b) It has a high density

(c) There is no free electron present in the crystal of diamond to conduct electricity

(d) None of the above

Q.6 The weakest intermolecular for a
(a) dipole–dipole force
(b) electrostatic force between ions
(c) ion–dipole force
(d) dipole–induced dipole force

Q.7 In liquids intermolecular forces are
(a) very weak (b) very strong
(c) reasonably strong (d) ion–dipole force

Q.8 Values of heat of vaporization for liquids, with strong dipole–dipole forces will be
(a) very high (b) very low
(c) reasonably high (d) negligible

Q.9 Instantaneous dipole–induced dipole force is also called
(a) dipole force (b) london dispersion
(c) hydrogen bonding (d) none of the above

Q.10 Down the group polarizability generally
(a) increases (b) decreases
(c) remains constant (d) do not follow a regular trend

Q.11 Trend of boiling points of halogens from fluorine to iodine is that it.
(a) decreases (b) increases
(c) remains constant (d) negligible

Q.12 Molecules of hydro carbons with large chain lengths experience
(a) repulsive forces (b) strong attractive force
(c) weaker attractive forces
(d) no attractive force

Q.13 Hydrocarbons which generally have high molecular masses exist is.
(a) solid form (b) liquid form
(c) vapour form (d) gaseous form

Q.14 Exceptionally low acidic strength of HF is due to
(a) strong polar bond (b) small size of fluorine
(c) strong hydrogen bonding (d) Vander Waal's forces

Q.15 Long chain of amino acids are coiled about one another into spiral by.

(a) covalent bond (b) ionic bond
(c) hydrogen bond (d) Vander Waal's forces

Q.16 Evaporation of water is possible at

(a) 100oC (b) 0oC
(c) at all temperatures (d) above 100oC

Q.17 Boiling point is low for liquid with

(a) high vapour pressure at given temperature
(b) low vapour pressure at a given temperature
(c) very high vapour pressure
(d) very low vapour pressure

Q.18 At equilibrium rate of evaporation and rate of condensation

(a) become very high (b) become very low
(c) can never be equal (d) become equal

Q.19 In an open system vapour pressure of water at 100oC at sea level is

(a) 700 mm of Hg (b) 760 mm of Hg
(c) 670 mm of Hg (d) 1000 mm of Hg

Q.20 Molar heat of vaporization of water is

(a) 140.6 kJ/mol (b) 14.06 kJ/mol
(c) 18 kJ/mol (d) 40.6 kJ/mol

Q.21 When external pressure is 23.7 torr boiling point of water is

(a) 100oC (b) 200oC
(c) 98oC (d) 25oC

Q.22 Distillation under very reduced pressure is called

(a) fractional distillation (b) distillation
(c) vacuum destructive distillation
(d) destructive distillation

Q.23 Water may boil at 120oC when external pressure is

(a) 760 torr (b) 100 torr
(c) 1489 torr (d) 700 torr

Q.24 Amount of heat absorbed when one mole of solid melts into liquid form at its melting point is called

(a) molar heat of sublimation
(b) heat of vaporization
(c) latent heat of fusion
(d) molar heat of fusion

Q.25 Ethanol is much more soluble in water than ethyl ethanuate which one of the following statement correctly account for this

(a) ethanol is polar molecule but ethyl ethanoate is non–polar
(b) ethanol is non polar molecule but ethyl ethanoate is polar
(c) a hydrogen bond is formed between H–atom of the OH group in ethanol and O–atom of water molecule
(d) a hydrogen bond is formed between the H–atom of the OH group in ethanol and hydrogen of the water molecule

Q.26 The boiling point of a liquid will be

(a) lower at high altitude
(b) higher at high altitude
(c) same at sea level and high altitudes
(d) equal to atmospheric pressure

Q.27 The process in which liquids can be made to boil at low temperature is called

(a) vacuum distillation
(b) destructive distillation
(c) distillation
(d) vacuum destructive distillation

Q.28 Why is the boiling point of methane greater than that of neon

(a) a molecule of methane has a greater mass
(b) a molecule of methane has more electrons than a molecule of neon
(c) the molecules of methane have stronger intermolecular forces than those of neon
(d) the molecule of methane is polar but that of neon is not

Q.29 The amount of heat required to vaporize one mole of a liquid at its boiling point is called

(a) molar heat of vaporization
(b) molar heat of fusion
(c) latent heat of fusion
(d) molar heat of sublimation

Q.30 Which of the elements in its crystalline form will have the lowest enthalpy change of vaporizations

(a) chlorine (b) argon
(c) phosphorous (d) silicon

Q.31 Crystals show variation in physical properties depending upon the direction. The property is called

(a) isomorphism (b) polymorphism
(c) anisotropy (d) isotropy

Q.32 Certain melt to a turbid liquid phase with properties of liquids as well as some degree of order like solid. Such turbid liquids are called

(a) anorphous solid (b) vitreous solid
(c) crystalline solid (d) liquid crystal

Q.33 Isomorphous crystals show

(a) same chemical properties
(b) same physical properties
(c) same crystalline form
(d) same melting point

Q.34 Existence of an element in more than form is known as

(a) allotropy (b) isomorphism
(c) isotropy (d) none of these

Q.35 Crystalline forms of the same, substance can coexist in equilibrium with each other at its

(a) melting point (b) transition temperature
(c) boiling point (d) none of these

Q.36 Crystal lattice of substance can be catagorised into

(a) five types (b) seven types
(c) six types (d) none of these

Q.37 Covalent solids are composed of

(a) ions (b) different molecules

(c) neutral atoms (d) any of the above

Q.38 Carbon atoms of diamond are

(a) sp hybridized (b) sp2 hybridized

(c) sp3 hybridized (d) unhybridized

Q.39 Molecular crystals are generally

(a) hard (b) soft

(c) unstable (d) stable

Q.40 Ionic crystals are

(a) hard (b) soft

(c) brittle (d) amorphous

ANSWER

Questions	1	2	3	4	5
Answers	d	d	d	b	c
Questions	6	7	8	9	10
Answers	d	c	c	b	a
Questions	11	12	13	14	15
Answers	b	b	a	c	c
Questions	16	17	18	19	20
Answers	a	c	d	b	d
Questions	21	22	23	24	25
Answers	d	c	c	d	c
Questions	26	27	28	29	30
Answers	a	a	c	a	b
Questions	31	32	33	34	35
Answers	c	d	c	a	b
Questions	36	37	38	39	40
Answers	b	c	c	b	a