ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

FOR GOD AND COUNTRY

SOLUTION-41(CLASS-12)

TOPIC- SOLUTION

SUBTOPIC- COLLIGATIVE PROPERTIES

SUBJECT – CHEMISTRY **F.M. - 15**

DURATION – 30 mins **DATE -10.07.20**

1.1 **Vapour pressure decreases with:**

a) Increase in concentration of the solution b) Decrease in solute particles in the solution.

c) Decrease in boiling point d) Increase in freezing point

Ans. a

1.2 **Addition of common salt in water causes**

a) Increase in M.P of solution b) Increase in B.P of solution.

c) Decrease in B.P of solution d) Decrease in both M.P & B.P.

Ans. b

1.3 **Addition of non-volatile solute in water results in:**

a) An increase in melting point of the liquid b) Decrease in the boiling point of the liquid.

c) A decrease in the vapour pressure of the liquid

d) No change in the boiling point of the liquid.

Ans. c

1.4 **What is the vapour pressure of pure liquid A at 27°C if it forms an ideal solution with another liquid B, the vapour pressure and mole fraction of pure liquid B at 27°C is 140 torr and 0.2 respectively? The total vapour pressure of the solution is 84 torr at 27°C.**

a) 56 torr b) 140 torr c) 70 torr d) 17 torr

Ans. c

1.5 **Which among the following is true?**

i. When vapour pressure of the liquid increases its boiling point decreases.

ii. When vapour pressure of the liquid increases its boiling point increases.

iii. When vapour pressure of the liquid decreases its boiling point decreases.

iv. When vapour pressure of the liquid decreases its boiling point increases.

a) i& iii b) i& iv c) ii & iii d) ii & iv

Ans. b

1.6**Positive deviation from Raoult's law is observed when:**
a) Inter molecular forces of attraction between the two liquids is greater than that between individual liquids.
b) Inter molecular forces of attraction between the two liquids is smaller than that between individual liquids.
c) Force of attraction between two liquids is greater than that between individual liquids.
d) Force of attraction between two liquids is smaller than that between individual liquid.
Ans. d

1.7**Which one of the following is not a colligative property?**
a) Osmotic pressure b) Elevation of boiling point c) Freezing point d) Depression in freezing point.
Ans. c

1.8 **Which of the following is not a volatile substance?**
a) Camphorb) Petrolc) Acetoned) Acetanilide
Ans. d

1.9 **Which of the following characteristics is not possessed by an ideal solution:**
a) Obeys Raoult's law b) Volume change on mixing is not equal to zero
c) There should be no chemical reaction between solute and solvent
d) Only very dilute solutions behave as ideal solutions
Ans. b

1.10 **The phenomenon of lowering of vapour pressure is defined as:**
a) Decrease in vapour pressure of a solvent on addition of a volatile non electrolyte solute in it.
b) Decrease in vapour pressure of a solvent on addition of a non-volatile non electrolyte solute in it.
c) Decrease in vapour pressure of a solvent on addition of a volatile electrolyte solute in it.
d) Decrease in vapour pressure of a solvent on addition of a non-volatile solute in it.
Ans. d

1.11**If 50 ml of 0.50 M NaCl solution is diluted with water to a volume of 500 ml the new concentration of solution is:**
a) 0.16 Mb) 0.05 Mc) 0.08 M d) 0.04 M
Ans.b

1.12**……. Shows the presence of strong intermolecular forces in a liquid.**
a) A low heat of vaporization b) A low critical temperature
c) A low vapour pressure d) A low boiling point
Ans. c

1.13**Which of the following pair of liquids are immiscible?**
a) Acetone + water b) Benzene + water c) Ethanol + water d) Acetic acid + water
Ans. b

1.14**When a solute is dissolved in water it shows:**
a) Decrease in freezing point of water b) Decrease in boiling point of water.
c) Increase in vapour pressure of water d) All of the above.
Ans. a

1.15I**f ethylene glycol is added to water in radiator cars during winter then it would lead to:**
a) Reducing specific heat b) reducing viscosity c) lowering in freezing point.
d) Lowering in boiling point.
Ans. c

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