

## Solution

Sr	Questions	Answers Choice
1	A homogeneous mixture of two or more than two chemical substances is called	A. Solute B. Solution C. Solvent D. Salvation
2	A solution can be	A. Dilute and concentrated B. Saturated and dilute C. Saturated and unsaturated D. Supersaturated and saturated
3	Number of moles of the solute dissolved per dm <sup>3</sup> of the solution is known as	A. Molarity B. Formality C. %age D. None of these
4	Number of moles of solute dissolved in 1 Kg of solvent is known as	A. Molarity B. Formality C. Molality D. Mole fraction
5	Solution may have units	A. Molarity B. Molality C. Mole fraction D. All of them
6	The process in which the solvent molecules are surrounded and interact with solute ions or molecules is called	A. Solvation B. Hydration C. Hydrogenation D. None
7	The process in which water molecules surround solute particles is called	A. Hydration B. Salvation C. Hydrolysis D. Dehydration
8	If the ionic product of a solution is less than the solubility product, the solution is	A. Supersaturated B. Unsaturated C. Ideal D. Saturated
9	If ionic product of a solution is greater than solubility product, the solution is	A. Supersaturated B. Saturated C. Unsaturated D. None of these
10	Precipitation will occur until the ionic product becomes	A. Equal to $K_{sp}$ B. Lesser than $K_{sp}$ C. Greater than $K_{sp}$ D. None of these
11	What is the molarity of a solution containing 15.0 g urea in 500 cm <sup>3</sup> of solution	A. 0.5 M B. 1 M C. 1.5 M D. 2 M
12	The term ebullioscopy is used for	A. Depression of freezing point B. Elevation in boiling point C. Lower of vapour pressure D. None of the above
13	How many cm <sup>3</sup> of 1 M H <sub>2</sub> SO <sub>4</sub> required to neutralize 10 cm <sup>3</sup> of 1 M NaOH	A. 2 cm <sup>3</sup> B. 2.5 cm <sup>3</sup> C. 5 cm <sup>3</sup> D. 10 cm <sup>3</sup>
14	What mass of NaOH is required to prepare 2.5 dm <sup>3</sup> of 1.5 M NaOH solution	A. 130 g B. 140 g C. 150 g D. 160 g
15	What will be the molarity of solution if 103 g (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> is dissolved per 600 cm <sup>3</sup> of water	A. 2.32 M B. 3.32 M C. 4.32 M D. 1.30 M

16	The molarity of solution containing 14.5 grams urea ( $\text{N}_2\text{H}_4\text{CO}$ ) dissolved in 100 $\text{cm}^3$ of the solution is	A. 1 molar B. 0.1 molar C. 0.2 molar D. 0.25 molar
17	The amount of solute present in the given amount of solvent is called	A. Molarity B. Molality C. Concentration D. Solubility
18	The molarity of the solution containing x grams $(\text{NH}_4)_2\text{SO}_4$ in 500 $\text{cm}^3$ of the solution is 0.6 what is x	A. 39.6 B. 45.1 C. 40.5 D. 42.7
19	The term cryoscopy is used for	A. Depression of freezing point B. Elevation in boiling point C. Lowering of vapour pressure D. Osmotic pressure
20	The molarity of toluene solution in benzene is 0.22 if 5 grams of toluene dissolved, then mass of benzene is grams is	A. 267 B. 260 C. 240 D. 247
21	0.1 molar glucose ( $\text{C}_6\text{H}_{12}\text{O}_6$ ) solution has the % W/N	A. 1.8% B. 18% C. 0.18% D. 2.8%
22	10% aqueous solution of NaCl has molarity	A. 1.7 M B. 2.7 M C. 0.17 M D. 3.7 M
23	50 $\text{cm}^3$ of 0.05 molar urea ( $\text{N}_2\text{H}_4\text{CO}$ ) solution has % W/N concentration	A. 6% B. 3% C. 0.3 % D. 0.6 %
24	17.1 grams sucrose ( $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ ) dissolved in 250 $\text{cm}^3$ of solution. This has molarity	A. 0.1 M B. 0.2 M C. 0.01 M D. 0.02 M
25	A solution consisting of 92 grams ethyl alcohol ( $\text{C}_2\text{H}_5\text{OH}$ ) 96 grams methyl alcohol ( $\text{CH}_3\text{OH}$ ) 90 grams water the mole fraction and mole percent of methyl alcohol is	A. 0.3, 30% B. 0.2, 30% C. 0.5, 30% D. 0.2, 20%
26	A solution containing 5.8 grams acetone ( $\text{CH}_3\text{OCH}_3$ ), 4.6 gram ethyl alcohol ( $\text{C}_2\text{H}_5\text{OH}$ ) and 12 grams chloroform ( $\text{CHCl}_3$ ) has mole fraction and mole percent of acetone	A. 0.11, 10% B. 0.33, 33% C. 0.22, 22% D. 0.11, 33%
27	The number of moles of $\text{NH}_4\text{Cl}$ dissolved in 500 $\text{cm}^3$ of its 15%, W/N solution is	A. 1 mole B. 1.4 mole C. 2.0 mole D. 2.4 mole
28	The substance which contains the water of crystallization is called	A. Hydrated B. Solvated C. Crystal D. None
29	Dust particles in smoke is a solution of the type	A. Liquid is solute and solid is solvent B. Solid is solute and liquid is solvent C. Solid is solute and gas is solvent D. Gas is solute and solid is solvent
30	Zeotropic mixture	A. Obey Henry's law B. Obey Raoult's law C. Does not obey Raoult's law D. Obey Dalton's law
31	Freezing point depression is measured by	A. Beckmann's apparatus B. Lands Berger's method C. Antifreeze apparatus D. All of the above
32	Cane sugar is not soluble in benzene but soluble in water because	A. Cane sugar is a macro molecule B. Cane sugar is an ionic compound C. Cane sugar has hydrogen bonding D. Cane sugar is an organic molecule
33	Hydrolysis of potassium acetate produces	A. Acidic solution B. Neutral solution C. Basic solution

		<p>D. None of these</p>
34	Mixture of alcohol and water can be separated by	<p>A. Solvent extraction techniques B. Crystallization C. Precipitation and filtration D. Fractional distillation</p>
35	The boiling point of an a zeotropic mixture of water and ethye alcohol is less than that of water and alcohol. The mixture shows	<p>A. That solution is highly saturated B. No deviation from Raoult's law C. Positive deviation from Raoult's law D. Negative deviation from Raoult's law</p>
36	The sum of mole fractions (X) of components of solution is equal to	<p>A. 100 B. 200 C. One D. Zero</p>
37	Which one of the following is an ideal solution that obeys Rault's law	<p>A. Ethanol + water B. Benzene + toluene C. HCl + water D. Acetone + chloroform</p>
38	Which if the following has the highest freezing point at one atmosphere	<p>A. 0.1 M NaCl B. 0.1 M sugar solution C. 0.1 M BaCl<sub>2</sub> D. 0.1 M FeCl<sub>2</sub> solution</p>
39	Which one of the following mixture shows positive deviation form Rault's law and forms an azetrope with minimum boiling point	<p>A. Methanol + CCl<sub>4</sub> B. Methanol + acetone C. Ether + HCl D. Acetone + chloroform</p>
40	Which of the following mixture of liquids show negative deviation form Raults law	<p>A. Ethyl alcohol and ether B. HCl and water C. Phenol- water D. Chlorobenene-bromobenene</p>
41	Which statement is incorrect for and ideal solution	<p>A. The forces of attractions between solute and solvent molecules are same B. There is no evolution or absorption of heat C. Volume of the solution is less than sum of volumes of individual components D. Vapour pressure of solution is directly proportional to the mole fraction of solvent</p>
42	Which of the following liquid pairs shown a positive deviation from Raoult's law	<p>A. CH<sub>3</sub>COOH + CH<sub>3</sub>Cl B. C<sub>6</sub>H<sub>6</sub> + C<sub>6</sub>H<sub>5</sub>OH C. H<sub>2</sub>O + HCl D. H<sub>2</sub>O + HNO<sub>3</sub></p>
43	A Solution containing 6.8 g of non-ionic solute in 100g of water was found to freeze at -0.93°C. If k <sub>f</sub> for water is 1.86 and molecular mars of solute is	<p>A. 13.6 B. 34 C. 68 D. 136</p>
44	Elevation of boiling point is measured by	<p>A. Beckmann's apparatus B. Lands Berger's method C. Antifreeze apparatus D. None of these above</p>
45	Which one of the following has discontinuous solubility curve	<p>A. CaCl<sub>2</sub>·6H<sub>2</sub>O B. NaCl C. KCl D. NaNO<sub>3</sub></p>
46	Which one of the following has continuous solubility curve	<p>A. NH<sub>4</sub>NO<sub>3</sub> B. CaCl<sub>2</sub>·6H<sub>2</sub>O C. CaCl<sub>2</sub>·6H<sub>2</sub>O D. Na<sub>2</sub>SO<sub>4</sub>·10H<sub>2</sub>O</p>
47	Saturated solution of a solid is prepared at a constant temperature. 100 cm <sup>3</sup> of this saturated solution is evaporated in a china dish. The mass of the residue is called	<p>A. Azetropic mixture B. Solubility C. Solubility product D. Equilibrium constant</p>
48	Solubility of a substance in water decreases with rise in temperature except	<p>A. CaCl<sub>2</sub>·6H<sub>2</sub>O B. Pb(NO<sub>3</sub>)<sub>2</sub> C. K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> D. Ce<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub></p>
49	Aqueous solution of glucose C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> , boils at 100.052°C. The solution contains	<p>A. 180 grams glucose in 1 kg water B. 18 grams glucose in 1 kg water C. 1.8 grams glucose in 1 kg water D. 0.8 grams glucose in 1 kg</p>

D. 3.6 grams glucose in 1 kg

50	Which of the following aqueous solutions have the lowest freezing point	<p>A. 5.85% NaCl</p> <p>B. 6% urea</p> <p>C. 34.2 sucrose</p> <p>D. All of them have same freezing points</p>
51	Solubility curve of $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$ shows	<p>A. Constant increase of solubility</p> <p>B. Constant decreases of solubility</p> <p>C. Discontinuously solubility with temperature</p> <p>D. None of above</p>
52	Which one of the following solution will have higher vapour pressure than that of water	<p>A. Aqueous solution of methanol</p> <p>B. Aqueous solution of HCl</p> <p>C. Aqueous solution of glucose</p> <p>D. Aqueous solution of urea</p>
53	Which one of the following is used as antifreeze in the radiator	<p>A. Methanol</p> <p>B. Ethanol</p> <p>C. Ethylene glycol</p> <p>D. Glycerin</p>
54	Which of the following salts mixed with ice to make the freezing mixture used in ice cream machine	<p>A. <math>\text{KNO}_3</math></p> <p>B. <math>\text{NH}_4\text{NO}_3</math></p> <p>C. <math>\text{AgNO}_3</math></p> <p>D. <math>\text{Mg}(\text{NO}_3)_2</math></p>
55	Which of the following half molar solutions will have lowest freezing point	<p>A. Solution of non-volatile, none electrolyte</p> <p>B. Solution of non volatile, weak electrolyte</p> <p>C. Solution of non volatile strong electrolyte</p> <p>D. Solution of volatile, non electrolyte</p>
56	A solution of 0.5 mole camphor in 100 grams chloroform ( $K_b = 0.322$ ) has rise in boiling point than that of chloroform by	<p>A. <math>0.81^\circ\text{C}</math></p> <p>B. <math>1.61^\circ\text{C}</math></p> <p>C. <math>1.81^\circ\text{C}</math></p> <p>D. <math>0.61^\circ\text{C}</math></p>
57	According to Raoult's law	<p>A. Relative lowering of V.P. is equal to mole fraction of solute</p> <p>B. The lowering of V.P. is directly proportional to mole fraction of solute</p> <p>C. V.P. of solvent above solution is equal to product of V.P. of pure solvent and mole fraction of solvent in solution</p> <p>D. All of the above</p>
58	If 5.85 g of NaCl are dissolved in 90g of water the mole fraction of NaCl is	<p>A. 0.1</p> <p>B. 0.01</p> <p>C. 0.2</p> <p>D. 0.0196</p>
59	3.6% w/v solution of HCl has the molarity	<p>A. 1.0</p> <p>B. 1.15</p> <p>C. 0.98</p> <p>D. 1.98</p>
60	The freezing mixture used in ice cream machine consists of ice and	<p>A. NaCl</p> <p>B. KCl</p> <p>C. <math>\text{MgCl}_2</math></p> <p>D. <math>\text{NaNO}_3</math></p>
61	Which statement is not true. A solution is a homogeneous mixture of	<p>A. Two ionic substances like NaCl and HCl</p> <p>B. Two molecular substances sugar and water</p> <p>C. A solute and a solvent 1% <math>\text{NaHCO}_3</math> in water</p> <p>D. NaCl and sand</p>
62	Which of the following solution has the highest boiling point	<p>A. 5.85% solution of sodium chloride</p> <p>B. 18.0% solution of glucose</p> <p>C. 6.0% solution of urea</p> <p>D. All have the same boiling point</p>
63	Two solutions of NaCl and KCl are prepared separately by dissolving 0.1 M of the solute in water. Which of the following statements is not true for these solution	<p>A. KCl solution will have higher boiling point than NaCl solution</p> <p>B. Both the solutions have same boiling</p> <p>C. KCl and NaCl solution possess same vapour pressure</p> <p>D. KCl solution possess same freezing point at NaCl solution</p>
64	The relative lowering of vapour pressure is equal to the mole fraction of the solute is statement of	<p>A. Raoult law</p> <p>B. Henry law</p> <p>C. Dalton law</p> <p>D. Graham's law</p>
65	A one thousand $\text{dm}^3$ sample of water contains one gram of iron (iii) ions what is the concentration in parts per million of $\text{Fe}^{3+}(\text{aq})$ in parts per million	<p>A. 0.001</p> <p>B. 0.01</p> <p>C. 0.1</p> <p>D. 1.0</p>

66	Compared to a 1.0M aqueous solution of calcium chloride will have	A. The same freezing and boiling point B. A lower freezing point and lower boiling point C. A lower freezing point and higher boiling point D. A higher freezing point and higher boiling point
67	Use of glycol as anti freeze in the automobile is an important application of	A. Colligative property B. Raoult's law C. Fractional crystallization D. Prrhenivs law
68	An azeotropic mixture of two liquids boils at a lower temperature than either of them when lower temperature	A. It is saturated B. it shows positive deviation from Raoult's law C. It shows negative deviation form Raoult's law D. It is metastable
69	In azeotropic mixture showing negative deviation form Raoult's law show	A. Higher b.p. than either B. Lower b.p. than either C. No change in b.p. D. None of these
70	Which is independent of temperature	A. Molarity B. Molality C. Normality D. Mole fraction
71	Coligative properties are the properties of	A. Dilute solution which behave as nearly ideal solutions B. Concentrated solutions which behave as nearly non-ideal solution C. Both (i) and (ii) D. Neither (i) and (ii)
72	A solution of two component is called	A. Binary solution B. Dilute solution C. Original solution D. Standard solution
73	The process in which solvent particles surround solute particles is called	A. Hydrolysis B. Hydration C. Solvation D. Dissolution
74	A solution containing maximum amount of solute dissolved at a given temperature is called	A. Saturated solution B. Unsaturated solution C. Supersaturated solution D. Impure solution
75	The percentage by weight of NaCl, if 6.0 g of NaCl is dissolved in 120 g of water is	A. 10.5 % B. 5% C. 8.02% D. 11.5%
76	10 ml of 1.5 M NaOH solution is neutralized by 20 ml of a-M HCl solution. The value of 'a' will be	A. 1.0 B. 0.75 C. 0.5 D. 0.25
77	What is the molarity of the solution that contains 20 grams of NaOH in 500 ml of solution [Na = 23, O = 16, H = 1]	A. 0.25 B. 0.5 C. 1 D. 20
78	Water shows maximum density at	A. 4°C B. 0°C C. 100°C D. -4°C
79	Hydrochloric acid available in the laboratory is 36% w/w. The density of HCl solution is 1.19 g cm <sup>-3</sup> . The molarity of HCl solution is	A. 10.23 moles dm <sup>-3</sup> B. 11.55 moles dm <sup>-3</sup> C. 11.73 moles dm <sup>-3</sup> D. 12.67 moles dm <sup>-3</sup>
80	A solution has 92 g of ethyl alcohol, 96 g of methyl alcohol and 90 g of water. Mole percentage of ethyl alcohol in the solution is	A. 10 B. 20 C. 25 D. 50
81	The freezing point of 1 molal NaCl solution assuming NaCl to be 100% dissociated in water in	A. -1.86 <span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">°C</span> B. -3.72 <span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">°C</span> C. +1.86 <span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">°C</span> D. +3.72 <span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">°C</span>

82	What happens when isotonic solution of A (mol.wt.342) and B (mol.wt 60) are put in to communication through semipermeable membrane?	<p>A. Transference of solvent from solution A to that of B take place</p> <p>B. Transference of solvent from solution B to that of A takes place</p> <p>C. No transference of solvent from solution A to that of B takes place</p> <p>D. Change in temperature of solutions takes place</p>
83	In cold countries ethylene glycol is added to water in radiators of cars during winter. It results in	<p>A. Lowering in b.pt</p> <p>B. Reducing viscosity</p> <p>C. Reducing specific heat</p> <p>D. Lowering in freezing pt</p>
84	Which of the following is a colligative property?	<p>A. Melting point</p> <p>B. Osmotic pressure</p> <p>C. Freezing point</p> <p>D. Sublimation temperature</p>
85	The osmotic pressure of solution increases if	<p>A. Temperature is decreased</p> <p>B. Solution constant is increased</p> <p>C. Number of solute molecules are increased</p> <p>D. Volume is increased</p>
86	Saturated solution of NaCl on heating becomes	<p>A. Super saturated</p> <p>B. Unsaturated</p> <p>C. Remains saturated</p> <p>D. None</p>
87	The movement of solvent molecules through a semipermeable membrane is called	<p>A. Electrolysis</p> <p>B. Electrophoresis</p> <p>C. Osmosis</p> <p>D. Cataphoresis</p>
88	Which inorganic precipitate acts as semipermeable membrane?	<p>A. Calcium sulphate</p> <p>B. Barium oxalate</p> <p>C. Nickel phosphate</p> <p>D. Copper ferrocyanide</p>
89	The molal elevation constant is the ratio of the elevation in boiling point to	<p>A. Molarity</p> <p>B. Molality</p> <p>C. Mole fraction of solute</p> <p>D. Mole fraction of solvent</p>
90	Which is not a colligative property?	<p>A. Osmotic pressure</p> <p>B. Lowering of vapour pressure</p> <p>C. Depression of freezing point</p> <p>D. Elevation of boiling point</p>
91	If 18 g glucose ( $C_6H_{12}O_6$ ) is present in 1000 g of an aqueous of glucose it is said to be	<p>A. 1 molal</p> <p>B. 1.1 molal</p> <p>C. 0.5 molal</p> <p>D. 0.1 molal</p>
92	1.0 g pure calcium carbonate was found to require 50 ml of dilute HCl for complete reaction. The strength of HCl solution is given by	<p>A. 4 N</p> <p>B. 2 N</p> <p>C. 0.4 N</p> <p>D. 0.2 N</p>
93	Solution which distill without change in composition or temperature are called	<p>A. Amorphous</p> <p>B. Azeotropic mixture</p> <p>C. Ideal</p> <p>D. Super saturated</p>
94	The molal depression constant depends upon	<p>A. Nature of solute</p> <p>B. Nature of solvent</p> <p>C. <math>\Delta H_{\text{solution}}</math></p> <p>D. Vapour pressure of solution</p>
95	The example of colligative property is	<p>A. Boiling point</p> <p>B. Osmosis</p> <p>C. Freezing point</p> <p>D. Osmotic pressure</p>
96	Osmotic pressure of a solution increases by	<p>A. Decreasing the temperature</p> <p>B. Increasing the volume</p> <p>C. Increasing the number of molecules of the solute</p> <p>D. None of the above</p>
97	The process of osmosis was first discovered by	<p>A. Nollet</p> <p>B. Pfeffer</p> <p>C. Traube</p> <p>D. Dutrochet</p>

98	Equal volumes of 0.1 M $\text{AgNO}_3$ and 0.2 M $\text{NaCl}$ are mixed. The concentration of $\text{NO}_3^-$ ions in the mixture will be	A. 0.1 M B. 0.05 M C. 0.2 M D. 0.15 M
99	At 25°C, the highest osmotic pressure is exhibited by 0.1 M solution of	A. $\text{CaCl}_2$ B. $\text{KCl}$ C. Glucose D. Urea
100	If 5.85 g of $\text{NaCl}$ are dissolved in 90 g of water, the mole fraction of $\text{NaCl}$ is	A. 0.1 B. 0.01 C. 0.2 D. 0.0196
101	Which of the following is not a colligative property?	A. Depression in freezing point B. Elevation of boiling point C. Osmotic pressure D. Modification of refractive index
102	Isotonic solutions have same	A. Molar concentration B. Molality C. Normality D. None of these
103	The concentration units independent of temperature would be	A. Normality B. Mass-volume percent C. Molality D. Molarity
104	The volume of 0.1 M $\text{H}_2\text{SO}_4$ required to neutralize completely 40 ml of 0.2 M $\text{NaOH}$ solution is	A. 10 ml B. 40 ml C. 20 ml D. 50 ml
105	What is the molarity of $\text{H}_2\text{SO}_4$ solution that has density of 1.84 gm/cc at 35°C and contains 98% by weight?	A. 4.18 M B. 8.14 M C. 18.4 M D. 18 M
106	Units of molarity are	A. gm/lit B. mol/lit C. kg/lit D. None of these
107	Vant Hoff's factor of $\text{Ca}(\text{NO}_3)_2$ is	A. 1 B. 2 C. 3 D. 4
108	Which of the following will have the highest boiling point at 1 atm pressure?	A. 0.1 M $\text{NaCl}$ B. 0.1 M Sucrose C. 0.1 M $\text{BaCl}_2$ D. 0.1 M Glucose
109	Which one of the following is a colligative property?	A. Surface tension B. Osmotic pressure C. Viscosity D. Refractive index
110	The relative lowering of vapour pressure is equal to the mole fraction of the solute, This law is called	A. Henry's law B. Raoult's law C. Ostwald's law D. Arrhenius law
111	Solutions with same osmotic pressures are called	A. Hypertonic B. Hypotonic C. Isotonic D. Normal
112	How many g of dibasic acid (mol. wt. 200) should be present in 100 ml of the aqueous solution to give 0.1 Normality?	A. 1 g B. 2 g C. 10 g D. 20 g
113	The osmotic pressure of 1 m solution at 27°C is	A. 2.46 atm B. 24.6 atm C. 1.21 atm D. 12.1 atm
114	Which substances are mixed to form a buffer solution?	A. A strong acid and its salt of a strong base B. Strong acid and its salt of weak base C. Weak acid and its salt of strong base D. Weak acid and its salt of weak base
115	Partial pressure of a solution component is directly proportional to its mole fraction. This statement is known as	A. Henry's law B. Raoult's law C. Distribution law

	fraction. The statement is known as	C. Distribution law D. Ostwald's dilution law
116	How much of NaOH is required to neutralize 1500 cm <sup>3</sup> of 0.1 N HCl?	A. 60 g B. 6 g C. 4 g D. 40 g
117	The temperature at which the vapour pressure of a liquid becomes equal to external pressure is	A. Melting point B. Sublimation point C. Inversion point D. Boiling point
118	The depression of freezing point is directly proportional to	A. Mole fraction of the solution B. Molarity of the solution C. Molality of the solution D. Molarity of the solvent
119	The solubility of a gas in water depends upon	A. Nature of the gas B. Temperature C. Pressure of the gas D. All of the above
120	When the solute is present in trace quantities the following expression is used	A. Gram per million B. Milligram percent C. Microgram percent D. Parts per million
121	At room temperature, the mole fraction of a solution is 0.25 and the vapour pressure of the solvent is 0.80 atm. Then the lowering of vapour pressure is	A. 0.75 B. 0.512 C. 0.80 D. 0.0512
122	If liquids A and B form an ideal solution	A. The enthalpy of mixing is zero B. The entropy of mixing is zero C. The free energy of mixing is zero D. The free energy as well as the entropy of mixing are each zero
123	Which of the statements given below concerning properties of solution, describe a colligative effect?	A. Boiling point of pure water decreases by the addition of ethanol B. Vapour pressure of pure water decreases by the addition of nitric acid C. Vapour pressure of pure benzene decreases by the addition of naphthalene D. Boiling point of pure benzene increases by the addition of toluene
124	The ionic strength of a solution containing 0.1 mole/kg of KCl and 0.2 mole/kg of CuSO <sub>4</sub> is	A. 0.3 B. 0.6 C. 0.9 D. 0.2
125	Azeotropic mixture of HCl and water has	A. 48% HCl B. 22.2% HCl C. 36% HCl D. 20.2% HCl
126	Maximum freezing point falls in	A. Camphor B. Naphthalene C. Benzene D. Water
127	A solution contains 1.2046 x 10 <sup>24</sup> hydrochloric acid molecules in one dm <sup>3</sup> of the solution. The strength of the solution is	A. 6 N B. 2 N C. 4 N D. 8 N
128	Camphor is often used in molecular mass determination because	A. It is solvent for organic substances B. It is readily available C. It has a very high cryoscopic constant D. It is volatile
129	The weight of pure NaOH required to prepare 250 cm <sup>3</sup> of 0.1 N solution is	A. 4 g B. 1 g C. 2 g D. 5 g
130	If $\alpha$ is the degree of dissociation of Na <sub>2</sub> SO <sub>4</sub> the vant Hoff's factor ( $i$ ) used for calculating the molecular mass is	A. $1 + \alpha$ B. $1 - \alpha$ C. $1 + 2\alpha$ D. $1 - 2\alpha$



		small; >α</span>
131	The vapour pressure of two liquids 'p' and 'Q' are 80 and 60 torr respectively. The total vapour pressure of solution obtained by mixing 3 mole of P and 2 mol of Q would be	A. 140 torr B. 20 torr C. 68 torr D. 72 torr
132	0.5 M of H <sub>2</sub> SO <sub>4</sub> is diluted from 1 litre to 10 litre, normality of resulting solution is	A. 1 N B. 0.1 N C. 10 N D. 11 N
133	50 mL of 10 N H <sub>2</sub> SO <sub>4</sub> . 25mL of 12 N HCl and 40 mL of 5N HNO <sub>3</sub> are mixed and the volume of the mixture is made 100 mL by adding water. The normality of resulting will be	A. 1 N B. 2 N C. 3 N D. 9 N
134	The weight of pure NaOH required to prepare 250 cm <sup>3</sup> of 0.1 N solution is	A. 4 g B. 1 g C. 2 g D. 5 g
135	Equal volumes of ethylene glycol (molar mass = 62) and water (molar mass = 18) are mixed. The depression in freezing point of water is (given K <sub>f</sub> of water = 1.86 K mol <sup>-1</sup> kg and specific gravity of ethylene glycol is 1.11)	A. 0.003 B. 3.33 C. 0.333 D. 33.3
136	The vant Hoff factor (1) accounts for	A. Degree of solubilisation of solute B. The extent of dissolution of solute C. The extent of dissolution of solute D. The degree of decomposition of solution
137	The osmotic pressure of a dilute solution is directly proportional to the	A. Diffusion rate of the solute B. Ionic concentration C. Elevation in boiling point D. Flow of solvent from a concentrated to a dilute solution
138	18 g glucose is dissolved in 90 g of water. The relative lowering vapor pressure is equal to :	A. 1/5 B. 5.1 C. 1/51 D. 6
139	A solution of glucose is of methanol in water has vapor pressure :	A. Equal that of water. B. Equal to that of methanol. C. More than that of water. D. Less than that f water.
140	An azeotropic mixture of two liquids boils at a lower temperature than either of them when :	A. It is saturated. B. It shows positive deviation from Raoult's law. C. It show negative deviation from Raoult's law. D. It is metastable.
141	An azeotropic mixture showing it's positive deviation from Raoult's law, the volume of the mixture is :	A. Slightly more than the total volume of the components. B. Slightly less than the total volume of the components. C. Equal to the total volume of the components. D. None of these.
142	Which of the following solutions has the highest boiling point ?	A. 5.85% solution of sodium chloride. B. 18.0% solution of glucose. C. 6.0% solution of urea. D. All have same boiling points.
143	The solutions of NaCl and KCl are prepared separately by dissolving same amount of solute in water, which of the following statements is true fro these solutions ?	A. KCl solution will have higher boiling point than NaCl solution. B. Both the solutions have same boiling points. C. KCl and NaCl solutions possess same vapour pressure. D. KCl solution possesses lower freezing point than NaCl solution.
144	The molar boiling point constant is the ration of elevation in boiling point to :	A. Molarity B. Molarity C. Mole fraction of solvent D. Mole fraction of solute.
145	Colligative properties are the properties of :	A. Dilute solutions which behave as nearly ideal solutions. B. Concentrated solutions which behave as nearly non-ideal solutions. C. Both(i) and (ii) D. Neither (i) nor (ii)
146	Every sample of matter with uniform properties and a fixed composition is called a :	A. Solid B. Liquid. C. Phase. D. Gas.

147	A solution is a homogeneous mixture of two or more kinds different :	A. Molecular. B. Covalent substance C. <b>Ionic Substances</b> D. Both (a) and (c)
148	The substance which is present in large quantity is called a :	A. Solute B. <b>Solvent</b> C. solution D. None of Above
149	Solutions containing relatively lower concentrations of solute are called :	A. Concentrated solutions. B. Lighter solutions. C. <b>Dilute solutions.</b> D. None of above.
150	In which type of following solutions we don't know the total volume of the solutions :	A. Percentage weight/weight B. Percentage weight/volume C. Percentage volume/volume D. <b>Percentage volume/weight</b>
151	In which type of following solutions the total volume of solutions may not be necessarily equal to sum of volumes of solute and solvent ?	A. <b>Percentage volume/volume</b> B. Percentage volume/weight C. Percentage weight/volume D. Percentage weight/weight
152	The number of moles of solute dissolved per $\text{dm}^3$ of the solution is called :	A. Normality. B. <b>Molarity.</b> C. Molarity. D. None of above.
153	The number of moles of solute in 1000g (1 Kg) of the solvent is called :	A. <b>Molarity</b> B. Molarity C. Normality D. Mole fraction
154	As compared to molar solution, in the molal solution the quantity of solvent is :	A. Comparatively lesser B. More or less equal C. <b>Comparatively greater</b> D. Very large
155	To calculate volume of the solvent, we need to know, the :	A. <b>Density of solute</b> B. Normality of solute C. Mass of solute D. Molarity of solute
156	Molarity of pure water is :	A. 33.3 B. <b>55.5</b> C. 44.4 D. 66.6
157	A solution of glucose is 10% The volume to which 1g mole of it dissolved will be :	A. $8.1 \text{ dm}^3$ B. $1.7 \text{ dm}^3$ C. <b><math>1.8 \text{ dm}^3</math></b> D. $6.1 \text{ dm}^3$
158	(A) is one molar NaCl solution and (b) is 1 molal NaCl solutin :	A. A and B are of same strength. B. A is more Concentrate than B. C. <b>b is more Concentrate than A.</b> D. None of above.
159	A solution sucrose is 34.2%. The volume of solution containing one mole of solute :	A. $342 \text{ cm}^3$ B. <b><math>1000 \text{ cm}^3</math></b> C. $500 \text{ cm}^3$ D. $242 \text{ cm}^3$
160	10g Of NaOH Has Been Dissolved Per $\text{dm}^3$ of solution. The morality of solution is :	A. 0.025 M B. 1.5 M C. 0.1 M D. <b>.25 M</b>
161	10g of NaOH has been dissolved per kg of solvent. The molality of solution is :	A. <b>.25 m</b> B. 1.5 m C. .5 m D. 2.5 m A Less than 100

162	The sum of mole percent of all the components of solution is always equal to :	A. Less than 100 B. One C. 100 D. 10
163	The ratio of moles of a particular component of solution to total moles of all components of solution is :	A. Mole fraction. B. Molality. C. Molarity. D. Normality.
164	5g of glucose is dissolved fro 100 cm of solution. Percentage of solution is :	A. 5 % v/w B. 5 % v/w C. 5 % w/v D. 5 % w/w