SOLUTIONS-GENERAL

1. Which one of the following substances is not a solution?
A. Salty water B. Brass
C.Boiling water D. Air

2. There are some mixtures given below;
I. Powder of iron-sulfur mixture,
II. Olive oil-water mixture,
III. Alcohol-water mixture,
Which one(s) is (are) homogeneous mixture?
A. I only B. II only
C. III only D. II and III

3. Which one is correct for solutions?
A. All solids are dissolved in each other
B. All liquids are dissolved in each other
C. All gases are dissolved in each other
D. All gases are dissolved in liquids

4. Which one of the following substances is not a solution?
A. Milk B. Bronze
C. Soft drink D. Salty water

5.Which one of the following solutions doesn't conduct electricity?
A. HCl solution B. NH_3 solution
C. NaOH solution D.$C_6H_{12}O_6$ solution

6. Which one of the following statements is **wrong** for solutions?
A.They are impure substances
B.They are homogeneous mixtures
C.They have definite melting and boiling points
D.They have two components; solute and solvent

8. Which one of the given below is the best conductor of electricity?

A. Pure water B. Tap water
C. Pure alcohol D. Alcohol-water mixture

10. When one spoonful of $CaCO_3$ is added into 100 L water, some of the salt dissolves but some does not. For the new solution;
I. It is concentrated
II. It is dilute
III. It is saturated
IV. It is unsaturated
Which two of the statements above are certainly true?
A. I and III B. II and III
C. I and IV D. II and IV

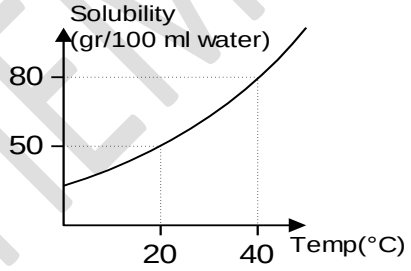
11. Which one of the following solutions is not a strong electrolyte?
A. Hydrochloric acid
B. Sodium hydroxide
C. Potassium nitrate
D. Ethyl alcohol

12.
I. Using water as solvent
II. Using a soluble salt
III. Existence of ions in solution
Which of the statements above represent(s) that the solution conducts electricity?
A. I only B. II only
C. I and III D. II and III

13. At 25°C 20 gram X salt is dissolved in 25ml water. What is the solubility of X salt gram in 100mL water?

A.40 B. 60 C. 80 D.120

14.



According to the graph above at 40°C. For a saturated solution which is prepared by using 20 gram X salt . When the temperature is decreased to 20°C, how many grams of water must be added to dissolve precipitated salt at the same temperature?
A. 15 B. 20 C. 50 D. 80

15.All nitrates (NO_3^{-1})are soluble in water. When NaCl and $AgNO_3$ solutions are mixed a precipitation observed. What is the formula of the precipitate?
A.$AgNO_3$ B.$NaNO_3$ C.AgCl D.NaAg

16.If some amount of water of a saturated solution of the salt X is evaporated,
I. Some amount of the salt precipitate.
II. Density of the solution increases.
III. Percent concentration by mass of the solution decreases.
Which of the above statements occur(s)?
A. I only B. II only C. I and II D. II and III

17.Solubility of a salt X is 20 g / 100g water at room temperature. 100 g of water is added into 360 g saturated solution of the salt X . How many grams of the salt X must be added to make the new solution saturated?
A. 10 B. 20 C. 30 D.40

18.

Compound	Solubility(g/100 g H_2O)
KNO_3	20
NaCl	36

At this temperature, to solve 80 g of KNO_3 and 108 g of NaCl together, how many grams of water are needed?
A. 300 B. 350 C. 400 D. 700

19.How many grams of water must be vaporised from 30% 250 gram sugar solution to prepare 50% sugar solution?
A.150 B. 125 C. 100 D. 75

20.
I. Temperature
II. Pressure
III. Amount of solvent
Which of the above generally increase(s) the solubility of salts but decrease(s) the solubility of gases in water?
A. I only B. III only C. I and II D. II and III

21. How many grams of water must be added into a solution of 30 % 200 gram sugar solution to prepare 10% sugar solution?
A. 200 B. 300 C. 400 D. 600

22. The solubility of the salt X, Y and Z are 10, 20 and 15 g/100g water at room temperature. 20 g of each salt is added into 150 g water separately, in which of the solution precipitation occur?
A. X solution B. Y solution
C. Z solution D. X and Y

23. 100 g of water is added into 420g saturated solution of the salt X solubility of which is 40 g/100 g water at room temperature. How many grams of the salt X should be added to make the new solution saturated?
A. 10 B. 20 C. 40 D. 60

24- What will be the percentage (%) of final solution after mixing 20% 200 gram NaCI solution with 50% 100gram NaCI solution and addition of 200 gram water into the mixture?
A.9 B. 12 C. 18 D. 15

25. At 50°C, in 100 g water, maximum 80 g of KNO_3 can be dissolved. How many gram more of KNO_3 can be dissolved in a solution having 200 g of 20% KNO_3 by mass at 50°C ?
A. 48 B. 88 C. 120 D. 128

26. How many grams pure alcohol are there in a 200 mL of 60% by mass alcohol solution having a density of 0.8 g/mL?
A. 96 B. 104 C. 120 D. 136

27. How many grams of sugar must be dissolved in 20 gram water to prepare 20% sugar solution?
A. 3 B. 4 C. 5 D. 6

28. What is the density of a 100 cm^3 of solution that is 30% X by mass and contains 39 g X ?
A. 0.39 B. 0.69 C. 1.1 D. 1.3

29. After addition of an amount of sugar into 20% 250 gram sugar solution and half of water is vaporized to make solution 50%. What is the mass of sugar added?
A. 25 B. 50 C. 70 D. 75

30. 100 g of water is added into 360 g saturated solution of the salt X of which solubility is 20g/100g water at room temperature. How many grams of the salt X should be added to make the new solution saturated?
A. 10 B. 20 C. 40 D. 60

31. After mixing 10% m gram NaCI solution with 30% 3m gram NaCI solution what will be % of mixture?
A.15 B. 20 C. 22.5 D. 25