Please do not write on the test

Multiple Choice

Identify the choice that best completes the statement or answers the question.

C 1. In a solution, the substance that is being dissolved is the ____.
a. gas b. liquid c. solute d. solvent

B 2. A solution that contains all of the solute it can hold at a given temperature is ____.
a. diluted b. saturated c. supersaturated d. unsaturated

A 3. The process by which the positive and negative ions of a crystalline solid separate in water is called ____.
a. dissociation b. ionization c. solution d. saturation

D 4. Increasing the surface area of a solid ____.
a. causes the solid to ionize c. slows the rate of solution
b. has no effect on the rate of solution d. speeds the rate of solution

A 5. When a gas is dissolved in a liquid, the gas dissolves faster if the liquid is ____.
a. cooled c. heated
b. an electrolyte d. under low pressure

A 6. The concentration of solution that contains a large amount of solute in the solvent could be described as ____.
a. concentrated b. diluted c. polar d. unsaturated

D 7. An alloy is an example of a ____ solution.
a. dilute b. gaseous c. liquid d. solid

C 8. Adding more solute to a solvent ____.
a. decreases its boiling point c. increases its boiling point
b. does not affect its boiling point d. increases its freezing point

A 9. $H_2SO_4 + CuO \rightarrow CuSO_4 + H_2O$ is an example of a(n) _____ reaction.
a. Neutralization b. Acid c. Base d. Single Displacement

D 10. The amount of solute that can be dissolved in a specific amount of solvent at a given temperature is its ____.
a. concentration b. density c. dilution d. solubility

D 11. Which of the following will speed up the dissolving of a solid solute in water?
a. Cool the solution. c. Grind up the solvent.
b. Freeze the solute. d. Stir the solution.

B 12. In a titration, the ____ is the point at which the indicator changes color and stays that way.
a. acid point c. pH point
b. endpoint d. standard point

B 13. In a titration, the ____ is the solution for which the concentration is known.
a. indicator
b. hydrate
c. normal solution
d. standard solution

B 14. H_3O^+ units are also known as ____.
a. hydrogen ions
b. hydronium ions
c. hydroxide ions
d. hydroxyl groups

A 15. A(n) ____ is a substance that produces H^+ ions in a water solution.
a. acid b. base c. salt d. alcohol

B 16. A(n) ____ is a substance that produces OH^- ions in a solution.
a. acid b. base c. salt d. alcohol

C 17. ____ measures how acidic or basic a substance is.
a. An ester b. A base c. pH d. Hydronium ion

D 18. $Zn + H_2SO4 \rightarrow ZnSO_4 + H_2$ is an example of a(n) _____ reaction.
a. Combustion b. Neutralization c. Base d. Acid

C 19. A ____ is a compound formed in solution from the negative ion of an acid and the positive ion of a base.
a. detergent b. glycerin c. salt d. soap

B 20. A bitter taste and a slippery feel are clues that a solution is probably a(n) ____.
a. acid b. base c. hydrate d. salt

C 21. $NaOH \rightarrow Na^+ + OH^-$ is an example of a(n) _____ reaction.
a. Acid
b. Neutralization
c. Base
d. Synthesis

C 22. Ammonia is a weak base because it produces ____ ions in solution.
a. strong b. weak c. only a few d. many

D 23. ____ of a solution refers to the ease with which an acid or base forms ions in solution.
a. Acidity b. Concentration c. pH d. Strength

D 24. A base that only partly ionizes in a solution is a ____ base.
a. concentrated b. dilute c. strong d. weak

B 25. In a ____ reaction, an acid and a base produce a salt and a water.
a. decomposition b. neutralization c. dilute d. concentrated

D 26. pH measures the ____ of hydronium ions in a solution.
a. versatility b. neutralization c. strength d. concentration

A 27. $HCl + H_2O \rightarrow H_3O^+ + Cl^-$ is an example of a(n) _____ reaction.
a. Acid
b. Base
c. Neutralization
d. ionization of a base

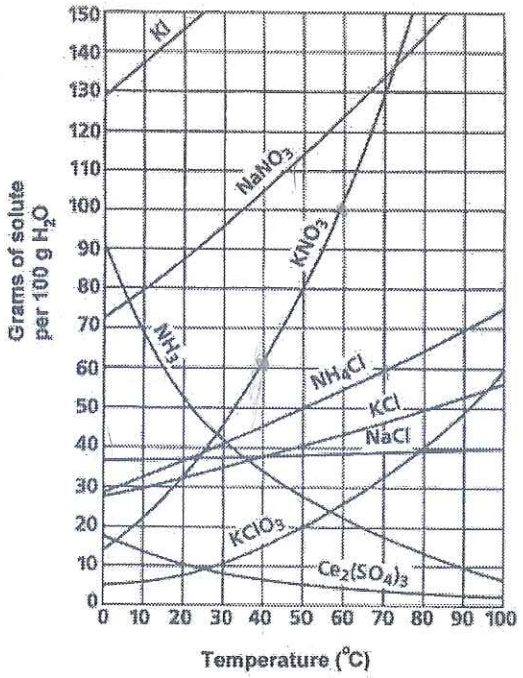
C ___ 28. Coffee has a pH of about 5. Coffee is a ____.

a. Strong Acid
b. Strong Base
c. Weak Acid
d. Weak Base

A ___ 29. To neutralize gastric juices in your stomach, antacids contain ____.

a. bases
b. H^+ ions
c. hydronium ions
d. phenolphthalein

Using the solubility curves below, answer the following questions.



A ___ 30. When 60g of KNO_3 [potassium nitrate] is dissolved in 100g of water at 40°C, the solution can be correctly described as _____.

a. Saturated
b. Unsaturated
c. Supersaturated
d. Dilute

B ___ 31. When 120g of $NaNO_3$ [sodium nitrate] is dissolved in 100g of water at 40°C, the solution can be correctly described as _____.

a. Saturated
b. Supersaturated
c. Unsaturated
d. Dilute

C ___ 32. When 50g of NH_4Cl [ammonium chloride] is dissolved in 100g of water at 70°C, the solution can be correctly described as _____.

a. Dilute
b. Supersaturated
c. Unsaturated
d. Saturated

Matching

Match each option with the correct statement.

a. an acid
b. could be either an acid or a base
c. a base

C 33. In solution, it feels slippery. A

C 34. It has a bitter taste. C

A 35. It has the chemical formula HNO_3. C

B 36. It can be corrosive. A

B 37. It reacts with an indicator to produce a change in its color. C

A 38. It has a sour taste. A

C 39. It has the chemical formula $Ca(OH)_2$. C

A 40. It forms hydronium ions in water. C