

Multiple Choice Question

1. What happens when a solution of an acid is mixed with a solution of a base in a test tube?

(i) Temperature of the solution decreases

(ii) Temperature of the solution increases

(iii) Temperature of the solution remains the same

(iv) Salt formation takes place

(a) (i) and (iv)

(b) (i) and (iii)

(c) (ii) only

(d) (ii) and (iv)

Answer: (d)

2. When hydrogen chloride gas is prepared on a humid day, the gas is usually passed through

the guard tube containing calcium chloride. The role of calcium chloride taken in the guard tube is to

- (a) absorb the evolved gas
- (b) moisten the gas
- (c) absorb moisture from the gas**
- (d) absorb Cl^- ions from the evolved gas

Answer: (c)

Explanation: Guard tube dries (absorbs water) from calcium chloride on a humid day.

3. Which one of the following salts does not contain water of crystallisation?

- (a) Blue vitriol
- (b) Baking soda**
- (c) Washing soda

(d) Gypsum

Answer (b)

4. In terms of acidic strength, which one of the following is in the correct increasing order?

(a) Water < Acetic acid < Hydrochloric acid

(b) Water < Hydrochloric acid < Acetic acid

(c) Acetic acid < Water < Hydrochloric acid

(d) Hydrochloric acid < Water < Acetic acid

Answer (a)

5. What is formed when zinc reacts with sodium hydroxide?

(a) Zinc hydroxide and sodium

(b) Sodium zincate and hydrogen gas

(c) Sodium zinc-oxide and hydrogen gas

(d) Sodium zincate and water

Answer: (b)

Explanation:



6. Tomato is a natural source of which acid?

(a) Acetic acid

(b) Citric acid

(c) Tartaric acid

(d) Oxalic acid

Answer (d)

7. Brine is an

(a) aqueous solution of sodium hydroxide

(b) aqueous solution of sodium carbonate

(c) aqueous solution of sodium chloride

(d) aqueous solution of sodium bicarbonate

Answer (c)

8. $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ is

(a) washing soda

(b) baking soda

(c) bleaching powder

(d) tartaric acid

Answer (a)

9. At what temperature is gypsum heated to form Plaster of Paris?

(a) 90°C

(b) 100°C

(c) 110°C

(d) 120°C

Answer (b)

10. How many water molecules does hydrated

calcium sulphate contain?

(a) 5

(b) 10

(c) 7

(d) 2

Answer (d)

Explanation: Chemical formula of hydrated calcium sulphate of gypsum is $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$

11. Sodium carbonate is a basic salt because it is a salt of a

(a) strong acid and strong base

(b) weak acid and weak base

(c) strong acid and weak base

(d) weak acid and strong base

Answer (d)

12. Alkalis are

- (a) acids, which are soluble in water
- (b) acids, which are insoluble in water
- (c) bases, which are insoluble in water
- (d) bases, which are soluble in water**

Answer (d)

13. Which of the following statements is correct about an aqueous solution of an acid and of a base?

- (i) Higher the pH, stronger the acid
 - (ii) Higher the pH, weaker the acid
 - (iii) Lower the pH, stronger the base
 - (iv) Lower the pH, weaker the base
- (a) (i) and (iii)
 - (b) (ii) and (iii)

(c) (i) and (iv)

(d) (ii) and (iv)

Answer (d)

Explanation: Stronger the acid, lesser is the pH.
Stronger the base, higher is the pH.

14. Lime water reacts with chlorine to give

(a) bleaching powder

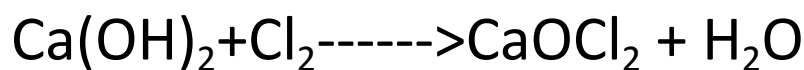
(b) baking powder

(c) baking soda

(d) washing soda

Answer (c)

Explanation:



15. Nettle sting is a natural source of which acid?

(a) MetiWanoic acid

(b) Lactic acid

(c) Citric acid

(d) Tartaric acid

Answer (a)

16. Tooth enamel is made up of

(a) calcium phosphate

(b) calcium carbonate

(c) calcium oxide

(d) potassium

Answer (a)

17. What is the pH range of our body?

(a) 7.0 – 7.8

(b) 7.2 – 8.0

(c) 7.0 – 8.4

(d) 7.2 – 8.4

Answer (a)

18. Rain is called acid rain when its:

(a) pH falls below 7

(b) pH falls below 6

(c) pH falls below 5.6

(d) pH is above 7

Answer (c)

19. Sodium hydroxide is a

(a) weak base

(b) weak acid

(c) strong base

(d) strong acid

Answer (c)

Explanation: Sodium hydroxide ionises in water

and produces a large amount of hydroxide ion.

20. An aqueous solution turns red litmus solution blue. Excess addition of which of the following solution would reverse the change?

- (a) Baking powder
- (b) Lime
- (c) Ammonium hydroxide solution
- (d) Hydrochloric acid**

Answer (d)

21. When copper oxide and dilute hydrochloric acid react, colour changes to

- (a) white
- (b) bluish-green**
- (c) blue-black
- (d) black

Answer (b)

Explanation: Blue green colour of solution is due to the formation of copper(II) chloride.

22. Sodium hydroxide is used

(a) as an antacid

(b) in manufacture of soap

(c) as a cleansing agent

(d) in alkaline batteries

Answer (b)

23. Sodium hydroxide turns phenolphthalein solution

(a) pink

(b) yellow

(c) colourless

(d) orange

Answer (a)

24. Chemical formula of washing soda is

(a) $\text{Na}_2\text{CO}_3 \cdot 7\text{H}_2\text{O}$

(b) $\text{Na}_2\text{CO}_3 \cdot 5\text{H}_2\text{O}$

(c) $\text{Na}_2\text{CO}_3 \cdot 2\text{H}_2\text{O}$

(d) $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$

Answer (d)

Fill in the blanks

1. Acids turn litmus solution..... .

2. pH of basic solution is always than 7.

3. are the products obtained when bleaching powder reacts with dilute sulphuric acid.

4. Potassium nitrate has pH value equal to
5. is the fixed number of water molecules chemically attached to each formula unit of a salt in its crystalline form.
6. is one of the raw materials for the production of baking soda.
7. The salts of a strong acid and weak base are with pH value than 7.
8. Use of mild base like on the bee-stung area gives relief.
9. During indigestion the stomach produces too much and this causes pain and irritation.
10. The presence of Ca in acids is responsible for their acidic properties.
11. Mixing an acid or base with water results in

decrease in the concentration of per unit volume.

This process is called

12. Among HCl, H₂SO₄ and CH₃COOH, is a weak acid.

Answers Key:

1. blue, red
2. more/greater
3. CaSO₄, Cl₂, H₂O
4. 7 or seven
5. Water of crystallisation
6. Sodium chloride
7. acidic, less
8. baking soda

9. acid (HCl)

10. H^+

11. OH-ions/ H_3O^+ ions, dilution

12. CH_3COOH