

Acid Base and Salt Exercise

1. 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
2. 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
3. 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
4. Tomato is a natural source of which acid?
 - (a) Acetic acid
 - (b) Citric acid
 - (c) Tartaric acid
 - (d) Oxalic acid
5. 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
6. $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ is
 - (a) washing soda
 - (b) baking soda
 - (c) bleaching powder
 - (d) tartaric acid
7. At what temperature is gypsum heated to form Plaster of Paris?
 - (a) 90°C
 - (b) 100°C
 - (c) 110°C
 - (d) 120°C

8. How many water molecules does hydrated calcium sulphate contain?

- (a) 5
- (b) 10
- (c) 7
- (d) 2

9. 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

10. 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

11. Lime water reacts with chlorine to give

- (a) bleaching powder
- (b) baking powder
- (c) baking soda
- (d) washing soda

12. 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

13. Sodium hydroxide is a

- (a) weak base
- (b) weak acid
- (c) strong base
- (d) strong acid

14. 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

15. Sodium hydroxide turns phenolphthalein solution

- (a) pink

- (b) yellow
- (c) colourless
- (d) orange

16. Which of the following phenomena occur, when a small amount of acid is added to water?

i. Ionisation ii. Neutralisation iii. Dilution iv. Salt formation

- a) (i) and (ii)
- b) (i) and (iii)
- c) (ii) and (iii)
- d) (ii) and (iv)

17. Which of the following salt will give acidic solution when dissolved in water?

- a. NH_4Cl
- b. NaCl
- c. Na_2CO_3
- d. CH_3COONa

17. Bleaching powder is used as a disinfectant for water to:

- a. Make water tastier
- b. Remove all the dirt from water
- c. Make water germ-free
- d. Make water clear

19. Which one of the following salts will dissolve in water to form an alkaline solution?

- a. Potassium carbonate
- b. Sodium chloride
- c. Sodium carbonate
- d. Potassium sulphate

20. Copper sulphate crystals when heated strongly, lose their water of crystallization to give anhydrous copper sulphate accompanied by a change in color from:

- a. Blue to green
- b. Blue to white
- c. Blue to sky blue
- d. Blue to grey

21. Methyl orange is

- (a) Pink in acidic medium, yellow in basic medium
- (b) Yellow in acidic medium, pink in basic medium
- (c) Colourless in acidic medium, pink in basic medium
- (d) Pink in acidic medium, colourless in basic medium.

22. Lime water is
(a) CaO (b) Ca(OH)_2 (c) CaCO_3 (d) CaCl_2
23. The nature of calcium phosphate is present in tooth enamel is
(a) Basic (b) Amphoteric (c) Acidic (d) Neutral
24. Which of the following salts has no water of crystallization?
(a) Blue vitriol (b) Washing soda (c) Baking soda (d) Gypsum
25. The function of quick lime in soda lime mixture is to
(a) Absorb moisture present in soda lime
(b) Increase the efficiency of soda lime
(c) Increase the pH of soda lime
(d) Take part in reaction with NaOH

Answers Key:

1. c 2. a 3. b 4. d 5. c 6. a 7. b 8. d 9. d 10. d
11. c 12. a 13. c 14. d 15. A 16. b 17. a 18. c 19. a 20. b
21. a 22. b 23. c 24. a 25. a