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Practice **Set 4** Solution

Acids, Bases & SALTS

Topics :

1. Understanding the Chemical Properties of Acids and Bases.
2. Reaction of Metallic Oxides with Acids.
3. Reactions of an Acid or a Base in Water Solutions.
4. Importance of pH in Everyday life.
5. Salts: Family of salts, pH of salts

DDCE final exam weightage of this topic : 4 Questions (8 Marks)

**Total Practice sets
of this topic :**

8 (sets) \times 25 (questions) = 200 Questions

**Total Practice tests
of this topic :**

2 (exams) \times 30 (questions) = 60 Questions

**Offline / Online
during lecture :**

4 (lectures) \times 50 (Questions) = 200 Question

Total 460 Questions to
practice this topic



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UNITY TRAINING ACADEMY FOR DDCET

Section 1 :

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1 Which of the following is a characteristic property of acids?

- A) Bitter taste
- B) Slippery feel
- C) Sour taste ✓
- D) Non-reactive with metals

2 Which of the following is a property of bases?

- A) Reacts with metals to produce hydrogen gas
- B) Turns litmus paper red ✓
- C) Turns litmus paper blue
- D) Releases carbon dioxide when reacted with an acid

3 Which of the following substances is considered a strong acid?

- A) Hydrochloric acid (HCl) ✓
- B) Acetic acid (CH₃COOH)
- C) Citric acid
- D) Carbonic acid

4 Which of these bases is a weak base?

- A) Sodium hydroxide (NaOH)
- B) Potassium hydroxide (KOH)
- C) Ammonia (NH₃) ✓
- D) Calcium hydroxide (Ca(OH)₂)

5 What does the pH scale measure?

- A) Concentration of water
- B) Concentration of hydrogen ions (H⁺) ✓
- C) Amount of carbon dioxide
- D) Volume of an acid solution

6 Which of the following is a neutral substance?

- A) Hydrochloric acid
- B) Water ✓
- C) Sodium hydroxide
- D) Vinegar

7. What is the product when copper oxide (CuO) reacts with sulfuric acid (H₂SO₄)?

- A) Copper sulfate (CuSO₄) ✓
- B) Water (H₂O)
- C) Carbon dioxide (CO₂)
- D) Hydrogen gas (H₂)

8. What type of compound is formed when a metallic oxide reacts with an acid?

- A) A salt ✓
- B) A base
- C) A non-metal oxide
- D) A metal

9. Which of the following is the product of the reaction between calcium oxide (CaO) and hydrochloric acid (HCl)?

- A) Calcium chloride (CaCl₂) ✓
- B) Water (H₂O)
- C) Sodium chloride (NaCl)
- D) Carbon dioxide (CO₂)

10 Which of the following metallic oxides will react with hydrochloric acid (HCl)?

- A) Magnesium oxide (MgO)
- B) Sodium oxide (Na₂O)
- C) Iron(III) oxide (Fe₂O₃)
- D) All of the above ✓





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11. What is formed when aluminum oxide (Al_2O_3) reacts with sulfuric acid (H_2SO_4)?

- A) Aluminum sulfate ($\text{Al}_2(\text{SO}_4)_3$) ✓
- B) Sodium sulfate (Na_2SO_4)
- C) Hydrogen gas (H_2)
- D) Magnesium sulfate (MgSO_4)

12. When sulfuric acid (H_2SO_4) is dissolved in water, it forms:

- A) H_3O^+ and SO_4^{2-}
- B) H^+ and HSO_4^- ✓
- C) H^+ and SO_4^{2-}
- D) H_3O^+ and H_2O_2

13. Which of the following is a weak acid that dissociates partially in water?

- A) HCl
- B) H_2SO_4
- C) Acetic acid (CH_3COOH) ✓
- D) HNO_3

14. Which of the following will happen when sodium hydroxide (NaOH) is dissolved in water?

- A) It will form Na^+ and OH^- ions. ✓
- B) It will produce hydrogen gas.
- C) It will form NaOH molecules.
- D) It will decrease the pH.

15. What happens when ammonia (NH_3) dissolves in water?

- A) It releases H^+ ions.
- B) It produces OH^- ions.
- C) It forms NH_4OH (ammonium hydroxide).
- D) Both B and C. ✓

16. Which of the following is the result when an acid is dissolved in water?

- A) Increase in OH^- concentration.
- B) Increase in H^+ or H_3O^+ concentration. ✓
- C) Decrease in pH.
- D) Increase in pH.

17. Which of the following foods is acidic in nature and has a pH below 7?

- A) Apples ✓
- B) Bananas
- C) Milk
- D) Honey

18. Why is pH important in swimming pool maintenance?

- A) To prevent bacterial growth
- B) To maintain the proper chlorine levels ✓
- C) To control the water temperature
- D) To make the pool water clear

19. What pH value is considered neutral?

- A) 7 ✓
- B) 0
- C) 14
- D) 4

20. Which of the following is an example of an alkaline substance with a pH greater than 7?

- A) Vinegar
- B) Ammonia solution ✓
- C) Orange juice
- D) Soft drink



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21. What does the term "salts" refer to in chemistry?

- A) Compounds formed from the reaction of an acid and a base ✓
- B) Organic compounds
- C) Basic oxides
- D) Non-reactive metals

22. Which of the following salts is acidic in nature?

- A) Sodium chloride (NaCl)
- B) Potassium nitrate (KNO₃)
- C) Ammonium chloride (NH₄Cl) ✓
- D) Sodium carbonate (Na₂CO₃)

23. Which of the following salts is basic in nature?

- A) Sodium chloride (NaCl)
- B) Ammonium nitrate (NH₄NO₃)
- C) Potassium hydroxide (KOH)
- D) Sodium acetate (NaCH₃COO) ✓

24. Which of the following is the family of salts formed from the neutralization of a strong acid and a strong base?

- A) Acidic salts
- B) Neutral salts ✓
- C) Basic salts
- D) Complex salts

25. What is the pH of a salt formed from a strong acid and a weak base?

- A) Neutral (pH 7)
- B) Acidic (pH < 7) ✓
- C) Basic (pH > 7)
- D) It depends on the salt.

