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# Practice **Set 5**

## 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 :**

$8 \text{ ( sets ) } \times 25 \text{ ( questions ) } = 200 \text{ Questions}$

**Total Practice tests  
of this topic :**

$2 \text{ ( exams ) } \times 30 \text{ ( questions ) } = 60 \text{ Questions}$

**Offline / Online  
during lecture :**

$4 \text{ ( lectures ) } \times 50 \text{ ( Questions ) } = 200 \text{ Question}$

**Total 460 Questions to  
practice this topic**



**91739 04421**



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- What happens when an acid is dissolved in water?
  - It dissociates to form hydroxide ions.
  - It dissociates to form hydrogen ions.
  - It forms a precipitate.
  - It increases the pH.
- Which of the following bases is found in household cleaning products?
  - Sodium hydroxide
  - Sulfuric acid
  - Nitric acid
  - Ammonium chloride
- Which of the following acids is found in citrus fruits?
  - Hydrochloric acid
  - Lactic acid
  - Citric acid
  - Sulfuric acid
- What is the pH of a neutral solution?
  - 0
  - 7
  - 14
  - 3
- What ion is responsible for the acidic properties of a solution?
  - Hydroxide ion ( $\text{OH}^-$ )
  - Hydronium ion ( $\text{H}_3\text{O}^+$ )
  - Chloride ion ( $\text{Cl}^-$ )
  - Sodium ion ( $\text{Na}^+$ )
- What ion is responsible for the basic properties of a solution?
  - Hydronium ion ( $\text{H}_3\text{O}^+$ )
  - Hydrogen ion ( $\text{H}^+$ )
  - Hydroxide ion ( $\text{OH}^-$ )
  - Potassium ion ( $\text{K}^+$ )
- A substance that can act as both an acid and a base is called:
  - Neutral
  - Amphoteric
  - Alkaline
  - Halogen
- The pH scale is used to measure:
  - Temperature
  - Pressure
  - Acidity and basicity
  - Volume
- Which of the following metallic oxides is amphoteric, meaning it can react with both acids and bases?
  - Sodium oxide ( $\text{Na}_2\text{O}$ )
  - Magnesium oxide ( $\text{MgO}$ )
  - Zinc oxide ( $\text{ZnO}$ )
  - Copper oxide ( $\text{CuO}$ )
- What is the product of the reaction between iron(III) oxide ( $\text{Fe}_2\text{O}_3$ ) and hydrochloric acid ( $\text{HCl}$ )?
  - Iron chloride ( $\text{FeCl}_3$ )
  - Hydrogen gas ( $\text{H}_2$ )
  - Water ( $\text{H}_2\text{O}$ )
  - Zinc chloride ( $\text{ZnCl}_2$ )



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11. Which of the following bases dissociates completely in water to form hydroxide ions?

- A) Ammonia ( $\text{NH}_3$ )
- B) Calcium hydroxide ( $\text{Ca}(\text{OH})_2$ )
- C) Sodium hydroxide ( $\text{NaOH}$ )
- D) All of the above

12. What is formed when hydrochloric acid ( $\text{HCl}$ ) is dissolved in water?

- A)  $\text{H}^+$  ions and  $\text{Cl}^-$  ions
- B)  $\text{H}_2\text{O}$  and  $\text{Cl}^-$  ions
- C)  $\text{H}_3\text{O}^+$  ions and  $\text{Cl}^-$  ions
- D)  $\text{H}_2\text{O}$  and  $\text{HCl}$  molecules

13. When an acid is dissolved in water, it increases the concentration of:

- A)  $\text{OH}^-$  ions
- B)  $\text{H}^+$  ions
- C)  $\text{Na}^+$  ions
- D)  $\text{Cl}^-$  ions

14. Which of the following acids is strong in water?

- A) Acetic acid
- B) Phosphoric acid
- C) Nitric acid
- D) Hydrofluoric acid

15. Which of the following describes a base in water?

- A) A substance that donates  $\text{H}^+$  ions.
- B) A substance that accepts  $\text{H}^+$  ions.
- C) A substance that produces  $\text{OH}^-$  ions.
- D) A substance that decreases the pH.

16. How does the pH of the stomach affect digestion?

- A) A high pH helps in digestion.
- B) A low pH aids in the breakdown of food.
- C) A low pH reduces food absorption.
- D) The pH does not impact digestion.

17. What is the pH range of human blood?

- A) 7.0-7.5
- B) 6.5-7.5
- C) 5.5-6.5
- D) 4.5-5.5

18. Which of the following substances is used to neutralize acidity in the stomach?

- A) Vinegar
- B) Baking soda
- C) Hydrochloric acid
- D) Lemon juice

19. What is the pH of pure water?

- A) 7
- B) 0
- C) 14
- D) 10

20. What is the ideal pH for most plant growth?

- A) 3-4
- B) 5.5-6.5
- C) 7-8
- D) 9-10



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21. Which of the following salts is formed by the neutralization of hydrochloric acid (HCl) and sodium hydroxide (NaOH)?

- A) NaCl
- B)  $\text{Na}_2\text{CO}_3$
- C)  $\text{NH}_4\text{Cl}$
- D)  $\text{NaNO}_3$

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

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

23. Which of the following salts is used in the preparation of soda ash?

- A) Sodium chloride (NaCl)
- B) Sodium bicarbonate ( $\text{NaHCO}_3$ )
- C) Sodium carbonate ( $\text{Na}_2\text{CO}_3$ )
- D) Ammonium sulfate ( $(\text{NH}_4)_2\text{SO}_4$ )

24. Which of the following salts would have a neutral pH in an aqueous solution?

- A) NaCl
- B)  $\text{NaNO}_3$
- C)  $\text{K}_2\text{SO}_4$
- D) All of the above

25. Which salt is used in fertilizers and has an acidic effect in soil?

- A) Ammonium nitrate ( $\text{NH}_4\text{NO}_3$ )
- B) Sodium chloride (NaCl)
- C) Potassium chloride (KCl)
- D) Calcium carbonate ( $\text{CaCO}_3$ )

