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Practice **Set 5** 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

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

**Total Practice sets
of this topic :**

8 (sets) x 25 (questions) = 200 Questions

**Total Practice tests
of this topic :**

2 (exams) x 30 (questions) = 60 Questions

**Offline / Online
during lecture :**

4 (lectures) X 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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- 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 (OH^-)
 - Hydronium ion (H_3O^+) ✓
 - Chloride ion (Cl^-)
 - Sodium ion (Na^+)
- What ion is responsible for the basic properties of a solution?
 - Hydronium ion (H_3O^+)
 - Hydrogen ion (H^+)
 - Hydroxide ion (OH^-) ✓
 - Potassium ion (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 (Na_2O)
 - Magnesium oxide (MgO)
 - Zinc oxide (ZnO) ✓
 - Copper oxide (CuO)
- What is the product of the reaction between iron(III) oxide (Fe_2O_3) and hydrochloric acid (HCl)?
 - Iron chloride (FeCl_3) ✓
 - Hydrogen gas (H_2)
 - Water (H_2O)
 - Zinc chloride (ZnCl_2)



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

- A) Ammonia (NH_3)
- B) Calcium hydroxide (Ca(OH)_2)
- C) Sodium hydroxide (NaOH) ✓
- D) All of the above

12. What is formed when hydrochloric acid (HCl) is dissolved in water?

- A) H^+ ions and Cl^- ions
- B) H_2O and Cl^- ions
- C) H_3O^+ ions and Cl^- ions ✓
- D) H_2O and HCl molecules

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

- A) OH^- ions
- B) H^+ ions ✓
- C) Na^+ ions
- D) 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 H^+ ions.
- B) A substance that accepts H^+ ions.
- C) A substance that produces 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) Na_2CO_3
- C) NH_4Cl
- D) 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 (NaHCO_3)
- C) Sodium carbonate (Na_2CO_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) NaNO_3
- C) K_2SO_4
- D) All of the above ✓

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

- A) Ammonium nitrate (NH_4NO_3) ✓
- B) Sodium chloride (NaCl)
- C) Potassium chloride (KCl)
- D) Calcium carbonate (CaCO_3)

