

ACID BASES AND SALTS

DPP 1

FILL IN THE BLANKS

1. Acids turn _____ litmus to _____ .
2. Basic solution of pH is always _____ than 7.
3. Mild base like _____ gives relief on the bee sting area. .
4. _____ is the fixed number of water molecules that is attached chemically to each formula unit of a salt in its crystalline form.
5. The stomach produces too much _____ during indigestion and this causes pain and irritation. 6 _____, are the products formed when bleaching powder reacts with dilute sulphuric acid.
7. The presence of _____ in acids is responsible for their acidic properties.
8. KNO_3 has pH value equal to _____. Among the given acid HCl , H_2SO_4 and CH_3COOH , _____ is a weak acid. _____ is one of the raw materials for the production of baking soda.

Q2. True and False

1. Methyl orange indicator gives yellow colour in basic solution.
2. All the organic acids are strong acids.
3. Litmus (indicator) is obtained from nettle plant.
4. The strength of an acid or base is measured on the basis of scale of numbers known as pH paper.
5. Oxalic acid is present in ant sting.
6. The dilution of a concentrated acid is always done by adding concentrated acid to water slowly slowly with stirring.
7. The sodium chloride aqueous solution is acidic in nature.
8. Glucose solution will conduct electricity. Plaster of Paris can be stored in any type of containers.
9. The more alkaline a solution, the more is the pH.

MCQ

1. . Which of the following is considered as a strong acid?
 - a. Acetic acid
 - b. Maleic acid
 - c. Nitric acid
 - d. Tartaric acid
2. 13. Which of the following is considered as a strong base?
 - a. Ammonium hydroxide (NH_4OH)
 - b. Sodium hydroxide (NaOH)
 - c. Water (H_2O)
 - d. Nitric acid (HNO_3)
3. The metal oxides that will show both acidic and basic characters?
 - a. K_2O
 - b. Na_2O
 - c. CuO
 - d. Al_2O_3
4. 15. The pH of a solution that will turn red litmus to blue
 - a. 1
 - b. 9
 - c. 3
 - d. 7

Acids Bases Salts DPP 2

1. Which of the following are present in a dilute aqueous solution of hydrochloric acid?

- a) $\text{H}_3\text{O}^+ + \text{Cl}^-$
- b) $\text{H}_3\text{O}^+ + \text{OH}^-$
- c) $\text{Cl}^- + \text{OH}^-$
- d) unionised HCl

2. Which of the following is not a mineral acid?

- a) Hydrochloric acid
- b) Citric acid
- c) Sulphuric acid
- d) Nitric acid

3. Which of the following gives the correct increasing order of acidic strength ?

- a) Water < Acetic acid < Hydrochloric acid
- b) Water < Hydrochloric acid < Acetic acid
- c) Acetic acid < Water < Hydrochloric acid
- d) Hydrochloric acid < Water < Acetic acid

4. Lime water turns milky when carbon dioxide is passed due to the formation of _____.

- a) CaCO_3
- b) CaO
- c) CO_2
- d) CaSO_4

5. Acids react with bases to form salt and water this reaction is known as -----

- a) Acidification
- b) Neutralization
- c) Corrosion
- d) Saturation

6. Acids react with metal carbonates to liberate _____ gas

Carbon dioxide
Hydrogen
Methane
Steam

7. When metals react with acids they form _____ and evolve _____ gas

- a) Water, salt
- b) Salt, carbon dioxide
- c) Salt, hydrogen
- d) Salt, carbon monoxide

8. How is the concentration of hydronium ions (H_3O^+) affected when a solution of an acid is diluted?

- 1) Increases
- 2) Decreases
- 3) Remains same

- 4) Other
9. Acetic acid is weak acid because
- Its aqueous solution is acidic
 - It is highly ionised
 - It is weakly ionised
 - It contains the COOH group.
10. Identify the basic salt from the following.
- Na_2CO_3
 - NaNO_3
 - KCl
 - NH_4Cl
11. Which one of the following will turn red litmus blue?
- Vinegar
 - Baking soda solution
 - Lemon juice
 - Soft drinks
12. Methyl orange is
- Pink in acidic medium, yellow in basic medium
 - Yellow in acidic medium, pink in basic medium
 - Colourless in acidic medium, pink in basic medium
 - Pink in acidic medium, colourless in basic medium.
13. Which of the following does not form an acidic salt?
- Phosphoric acid
 - Carbonic acid
 - Hydrochloric acid
 - Sulphuric acid
14. Which of the following statements is true for acids?
- Bitter and change red litmus to blue
 - Sour and change red litmus to blue
 - Sour and change blue litmus to red
 - Bitter and change blue litmus to red
15. Ionic compounds do not conduct electricity in ____ state
16. Which of the following is not a property of ionic compounds?
- They conduct electricity
 - They are formed by sharing of electrons
 - They consist of cations and anions
 - They dissociate in aqueous medium
17. Alkali are bases that are _____ in water
- highly insoluble

- b) Highly soluble
- c) Sparingly soluble
- d) Immiscible

18. When KOH combines with acetic acid it forms _____ salt

- a) Acidic
- b) Basic
- c) Neutral
- d) Weak

19. Basicity of phosphoric acid is ____

- a) 1
- b) 2
- c) 3
- d) 4

20. pH stands for ____

- a) Purity of hydrogen
- b) Power of hydrogen ion
- c) Power of hydroxide ion
- d) Other

Q2. Mention the colour changes observed when the following indicators are added to acids:

(i) Alkaline phenolphthalein solution.

(ii) Methyl orange solution

(iii) Neutral litmus solution

Q3. Complete the blanks from the list given:

(Ammonia, Ammonium, Carbonate, Carbon dioxide, Hydrogen, Hydronium, Hydroxide, Precipitate, Salt, Water.)

A solution X turns blue litmus red, so it must contain (i) ions; another solution Y turns red litmus blue and therefore, must contain (ii) ions. When solutions X and Y are mixed together the products will be a (iii) and (iv) If a piece of magnesium were put into solution X, (v) gas would be evolved.

ACID BASE SALT DPP 3

FILL IN THE BLANKS

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5. The stomach produces too much _____ during indigestion and this causes pain and irritation.
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7. The presence of _____ in acids is responsible for their acidic properties.
8. KNO_3 has pH value equal to _____ .
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10. _____ is one of the raw materials for the production of baking soda.

TRUE/FALSE

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9. Plaster of Paris can be stored in any type of containers.
10. The more alkaline a solution, the more is the pH.

MATCH THE FOLLOWING

In this section, each question has two matching lists. Choices for the correct combination from column-I and Column-II are given as options (a), (b), (c) and (d) out of which one is correct.

1. Column-I

- (P) Strong acid
(Q) Weak acid
(R) Weak base
(S) Strong base

- a. P-1, Q-2, R-4, S-3
c. P-4, Q-3, R-2, S-1

2. Column-I

pH value

- (P) 6.5 to 6.7
(Q) 7.4
(R) 2.4 - 3.4
(S) 12.4

- a. P-1, Q-1, R-2, S-3
c. P-2, Q-3, R-1, S-4

3. Column-I

- (P) Water is produced
(Q) H_3O^+
(R) H_2

- (S) Carbon dioxide gas

- a. P-1, Q-4, R-3, S-2
c. P-2, Q-1, R-3, S-4

4. Column-I

- (P) $\text{Mg}(\text{OH})_2$
(Q) $\text{CaSO}_4 \cdot 1/2\text{H}_2\text{O}$
(R) $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
(S) CaOCl_2

- a. P-4, Q-1, R-2, S-3
b. P-4, Q-2, R-3, S-1
c. P-1, Q-4, R-3, S-2
d. P-2, Q-3, R-1, S-4

Column-II

1. H_2SO_4
2. CH_3COOH
3. NaOH
4. NH_4OH

- b. P-1, Q-2, R-3, S-4
d. P-1, Q-3, R-4, S-2

Column-II

Solution

1. Vinegar
2. Milk
3. Human blood
4. Lime water

- b. P-1, Q-2, R-3, S-4
d. P-3, Q-4, R-1, S-2

Column-II

1. Metal + acid
2. Acid + Base
3. Metal carbonate + aci
4. Acid + water

- b. P-2, Q-4, R-1, S-3
d. P-1, Q-3, R-4, S-2

Column-II

1. Plaster of Paris (POP)
2. Gypsum
3. Bleaching Powder
4. Milk of magnesia