



## CHEMISTRY

### BOOKS - BHARATI BHAWAN CHEMISTRY (HINGLISH)

### ACIDS , BASES AND SALTS

#### Fill In The Blanks

1. Acids do not show their acidic properties in the absence of \_\_\_\_\_



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2. Acids have a \_\_\_\_\_ taste, whereas bases have a \_\_\_\_\_ taste

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3. Acids when dissolved in water produce \_\_\_\_\_ ions.

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4. The ions present in a dilute aqueous solution of hydrochloric acid are \_\_\_\_\_ and \_\_\_\_\_

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5. Lemon juice is \_\_\_\_\_ in nature.



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6. Red-cabbage juice is a \_\_\_\_\_ indicator .



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7. Onion juice is an \_\_\_\_\_ in dicator .



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8. A solution of sodium acetate in water is \_\_\_\_\_ in nature.



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9. Basic solutions have pH greater than,

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**Write Yes Or No**

1. Are acids electrolytes ?

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2. Why should curd and sour substances not be kept in brass and copper vessels?



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3. Can dry hydrogen chloride gas turn a blue litmus paper red ?



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4. Are water -soluble bases called alkalis ?



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5. Do bases dissolved in water produce hydroxyl ions ?



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6. Do acidic solutions contain  $OH^-$  ions ?

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7. Do plants grow better when the soil is highly acidic ?

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8. Can onion juice be used by a blind student to test whether a solution is acidic or basic ?

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**Mark The Statements True T Or False F**

1. A strong acid is almost completely ionized in its aqueous solution.

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2. when excess of a base is dissolved in a solution of sodium hydroxide, the concentration of hydroxide ion in the solution decrease.

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3. An antacid is used to neutralize excess acid present in the stomach.

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4. An aqueous solution with  $pH$  8 is acidic.

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5.  $C_2H_5OH$  is base because it contains OH group .

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6. Baking powder is pure sodium hydrogencarbonate.

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7. When an acid reacts with a metal, hydrogen gas is produced.

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8. The acid present in orange juice is citric acid.

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9. Vanilla essence and olive oil are olfactory indicators.

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10. A universal indicator is used to determine the acidic or basic strength of a solution .



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MCQ

1. Which of the following statements about the dissolution of ammonium chloride in water is (are) correct ?

A. the temperature of the solution increases.

B. The solution becomes alkaline.

C. the solution become acidic

D. The temperature of the solution decreases.

**Answer: C::D**



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2. Which of the following substances should be added to an acidic solution to make it basic ?

A. Baking soda

B. sulphuric acid

C. Ammonium hydroxide

D. calcium hydroxide

**Answer: A::C::D**



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3. The constituents present in baking soda are

- A. calcium bicarbonate
- B. sodium hydrogencarbonate
- C. tartaric acid
- D. Citric acid

**Answer: B::C**



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4. Which of the following is (are) not natural acid (s) ?

- A. Tartaric acid
- B. Hydrochloric acid
- C. Nitric acid
- D. Oxalic acid

**Answer: B::C**



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5. Which of the following statements is (are) wrong ?

- A. Lime juice is acidic in nature.
- B. Turmeric cannot be used as an indicator by a visually impaired student.

C. Higher the pH, stronger is the acid.

D. Calcium phosphate present in tooth enamel is basic in nature.

**Answer: C**

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**6.** A small amount of hydrochloric acid is added to water.

Which of the following about this is (are) correct ?

A. Hydrochloric acid gets ionized

B. A salt is produced

C. Hydrochloric acid forms the upper layer.

D.  $H_3O^+$  and  $Cl^-$  ions are formed.

**Answer: A::D**



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7. Which of the following are not olfactory indicators ?

A. Onion juice

B. Turmeric

C. Red-cabbage juice

D. Olive oil

**Answer: B::C**



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## Very Short Answer Question

1. What happens when a solution of an acid is mixed with a solution of a base in a test tube ?

(i) The temperature of the solution increases

(ii) The temperature of the solution decreases

(iii) The temperature of the solution remains the same

(iv) Salt formation takes place



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2. How is hydrogen chloride gas dried ?



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3. What is the pH of the gastric juice present present in our stomach ?

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4. What acid is produced in fatigued muscles after doing a vigorous exercise ?

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5. Why is citric acid called an organic acid ?

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6. What are the indicators called if they emit different odours when added to acids and bases ?



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7. Which gas is produced when an acid reacts with a metal ?



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8. What is a universal indicator ?



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9. How is the painful effect of a honeybee sting treated ?

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10. What should we do when someone is stung by the leaves of a nettle plant ?

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11. Why does dry hydrogen chloride gas not show its acidic property ?

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**12.** What is the natural indicator that is obtained from lichens ?



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**13.** Name the common element which is present in all acids .



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**14.** An excess of acid in the stomach causes acidity. Which of the following substance should be used as a remedy ?

Vinegar Lemon juice baking soda solution

Give reasons for your answer.



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## Short Answer Questions

1. What will be the action of litmus paper on the following substances ?

(i) Lemon juice (ii) Vinegar (iii) Dry HCl gas

(iv) Dry  $NH_3$  (v) Soap solution (vi) Milk

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2. How will you distinguish an acid from a base when no litmus paper is available to you ?

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3. What is meant by strong acids and weak acids? Classify the following into strong acids and weak acids:

$HCl$ ,  $HC_3COOH$ ,  $H_2SO_4$ ,  $HCO_3$ ,  $H_2CO_3$ ,  $H_2SO_3$ .

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4. Name three mineral acids.

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5. What are organic acids ? Name any two organic acids.

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6. What are olfactory indicators ? How is an olfactory indicator used to test whether a given solution is an strength.

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7. There test tubes, A ,B and C contain aqueous solutions having pH equal, to 3,8 and 7 respectively . Arrange them in the order of their increasing acidic strength.

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8. Name two materials which can be added to a highly acidic soil to reduce its acidity . Give reasons for your

answer.

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9. Classify the following substances into 2 groups :

$pH > 7$  and  $pH < 7$

Lemon juice Wine Limewater Blood Acid rain How do these substances react with litmus paper ?

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10. Name the natural source for each of the following substance :

(i) Oxalic acid (ii) Tartaric acid (iii) Malic acid

(iv) Citric acid (v) Lactic acid



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11. Some substance are given below :

$NH_4Cl$ ,  $CuSO_4$ ,  $CH_3COONa$ ,  $NaCl$ ,  $NH_3NO_3$ ,  $Na_2SO_4$

Which of these substance will produce (i) an acidic solution. (ii) a basic solution and (iii) a neutral solution ?



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12. How does the pH of lemon juice change when a tablet of an antacid is dissolved in it ?



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**13.** The powder of a black substance taken in a test tube is treated with dilute sulphuric acid. The substance dissolves to produce a blue solution.

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**14.** Name the acid present in ant sting. How will you treat yourself stung by an ant ?

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**Long Answer Questions**

1. Define acid and describe any five characteristics of an acid.



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2. Describe any five general characteristics of a base.



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3. Distinguish between strong acids and weak acids. Give two examples each.



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4. How does a strong base differ from a weak base ? Give two examples of each .

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5. Give reasons for the following :

(i) Distilled water does not conduct electricity but rain water does.

(ii) Acids do not show acidic behaviour in the absence of water.

(iii) A solution with pH less than 7 is acidic.

(iv) HCl shows acidic behaviour in aqueous solution but  $C_2H_5OH$  does not .

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6. Explain the following :

(i) Acid salt (ii) Fire extinguisher

(iii) Olfactory indicator (iv) pH-scale



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7. Describe an activity to show that glucose and ethanol do not conduct electricity even though they contain hydrogen.



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