

# Science

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(Chapter - 2) (Acid Bases and Salts) (Practice Test 5)

(Class X)

Time: 60 minutes

M M: 25

## General Instructions:

- This question paper contains four sections - A, B, C, and D. Each part is compulsory.
- Section - A has 4 MCQ of one mark each.
- Section - B has 5 questions of two mark each.
- Section - C has 2 questions of three mark each.
- Section - D has 1 question of five mark.
- There is no negative marking.

### Section - A

1. Conducts electricity when .....  
(A) Base in water  
(B) Acid in base  
(C) Acid in water  
(D) Base in acid
2. Choose incorrect sentence.  
(A) Acid in water conducts electricity  
(B) Salt is formed when acid and base get reacts  
(C) Glucose and alcohol produce electricity  
(D) Hydrochloric acid has sour taste
3. .... are generated  $OH^-$  in water.  
(A) Acids  
(B) Salts  
(C) Bases  
(D)  $HCl$
4. Bases which are soluble in water called .....  
(A) Alkane  
(B) Alkene  
(C) Allyl  
(D) Alkalis

### Section - B

5. Oxides of metals are basic while those of non-metals are acidic. Explain.
6. During summer season, a milkman usually adds a very small amount of baking soda to fresh milk. Give one reason.
7. What is the action of litmus on (a) dry ammonia gas (b) solution of ammonia gas in water?
8. 15 ml of water and 10 ml of sulphuric acid are to be mixed in a beaker (a) State the method that should be followed with reason. (b) What is this process called?
9. Explain how antacid works.

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Section - C

10. You have been provided with three test tubes. One of them contains distilled water and the other two contains an acidic solution and a basic solution respectively. If you are given only red litmus, how will you identify the contents of each test tube?

11. While constructing a house, a builder selects marble flooring and marble table top for the kitchen where vinegar and lemon juice, tamarind etc., and more often used for cooking are to be kept. Will you agree to this selection and why?

Section - D

12.

(A) Explain the following chemical properties of acids with the help of balanced chemical equations only:

- (1) when an acid reacts with a metal carbonate,
- (2) when an acid reacts with a metal bicarbonate,
- (3) when an acid reacts with a metal oxide.

(B) You are given three solutions A, B and C with  $pH$  values, 2, 10 and 13 respectively. Which solution has the highest hydrogen ion concentration among the three and state the nature 'acidic or basic' of each solution.



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## Hints and Answers

### Section - A

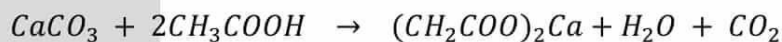
1. (c) Acid in water.
2. (c) Glucose and alcohol produce electricity.
3. (c) Bases.
4. (d) Alkalis.

### Section - B

5. Metal oxides dissolve in water to form base basic in nature. On the other hand non-metals dissolve in water to form acids, acidic in nature.
6. Baking soda is basic in nature, it will not allow milk to turn sour due to the formation of lactic acid.
7.  
(A) There is no effect of dry litmus on dry ammonia gas.  
(B) Solution of ammonia will turn red litmus blue.
8.  
(A) Acid should be added to the water slowly with constant cooling because the reaction is highly exothermic.  
(B) This process is called dilution.
9. Antacids are weakly basic in nature. They neutralize excess of  $HCl$  present in our stomach and gives us relief from hyper-acidity.

### Section - C

10. Add red litmus to each of them. The test tube in which it turns blue contains the base. Add blue litmus to the remaining two test tubes. The one in which it turns red contains the acid. The other one in which blue litmus and red litmus do not change contains distilled water.
11. No, he has taken wrong decision. Marble will react with vinegar and other acids and get corroded.



### Section - D

12.  
(A)  
(1)  $Na_2CO_3 + H_2SO_4(dil) \rightarrow Na_2SO_4 + H_2O + CO_2$   
(2)  $2NaHCO_3 + H_2SO_4(dil) \rightarrow Na_2SO_4 + H_2O + CO_2$   
(3)  $MgO + H_2SO_4 \rightarrow MgSO_4 + H_2O$   
(B)  
'A' has more  $H^+$  ion concentration among the three.  
'A' is acidic.  
'B' is basic.  
'C' is strongly basic.