

Science

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(Chapter - 2) (Acid Bases and Salts) (Practice Test 3)

(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. When Zinc granules and dilute Sulphuric acid get reacts by burning
(A) Oxygen gas evolved
(B) Carbon monoxide gas evolved
(C) Hydrogen gas comes out
(D) Bubbles formed
2. Acid + Metals → + hydrogen gas
(A) Base
(B) Metal Oxide
(C) Indicator
(D) Salt
3. Passing the carbon dioxide gas evolve through lime water.
(A) White ash formed
(B) White precipitate formed
(C) Black ash formed
(D) White powder formed
4. It is not made by Calcium Carbonate.
(A) Limestone
(B) Chalk
(C) Marble
(D) Tooth brush

Section – B

5. What is meant by term *pH* of solution? The *pH* of rain water collected from two cities 'A' and 'B' were found to be 6.0 and 5.0 respectively. The water of which city will be more acidic?
6. A few drops of sulphuric acid are added to water before electrolysis, why?
7. Name the acids present in (i) nettle sting, (ii) curd.
8. Which bases are called alkalies? Give one example of alkali.
9. You have two solutions A and B. The *pH* of solution 'A' is 6 and the *pH* of solution 'B' is 8. Which solution has more hydrogen ion concentration? Which one of this is acidic and which one is basic?

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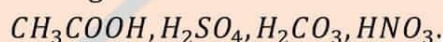
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Section - C

- 10.
- (A) Define a universal indicator. Mention its one use.
- (B) Solution 'A' gives pink color when a drop of phenolphthalein indicator is added to it. Solution 'B' gives a red color when a drop of methyl orange is added to it. What type of solutions are 'A' and 'B' and which of these will have higher pH ?
- (C) Name one salt whose solution has pH greater than 7 and one salt with pH less than 7.

- 11.
- (A) Define olfactory indicators. Name two substances which can be used as olfactory indicators.
- (B) Choose strong acids from the following:



Section - D

12. Equal length of magnesium ribbon are taken in two test tubes A and B. H_2SO_4 is added to test tube 'A' and H_2CO_3 is added in test tube 'B' in equal amounts:
- (A) Identify the test tube showing vigorous reaction.
- (B) Give reason to support your answer.
- (C) Name the gas liberated in both the test tubes. How will you prove its liberation?
- (D) Write chemical equations for both the reactions.
- (E) Out of two acids taken above, which one will have lower pH value and lower H^+ ion concentration respectively?



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Hints and Answers

Section - A

1. (c) Hydrogen gas comes out.
2. (d) Salt.
3. (b) White precipitate formed.
4. (d) Tooth brush.

Section - B

5. pH of solution is defined as negative logarithm of H^+ ion concentration. It determines the strength of acid and base. Rainwater with $pH = 5$ is more acidic.
6. Water is not a good conductor of electricity. Few drops of sulphuric acid makes it better conductor of electricity.
7. (i) $HCOOH$, Formic acid (ii) Lactic acid, $CH_3-CH(OH)-COOH$
8. Those bases which are soluble in water are called alkalies e.g., $NaOH$, KOH .
9. 'A' has more H^+ ion concentration. 'A' is acidic while 'B' is basic.

Section - C

10.
(A) Universal indicator is mixture of indicators used to find pH of solution. It is used to measure levels of H^+ ion concentration.
(B) 'A' is basic in nature, 'B' is acidic in nature. 'A' will have higher pH than 'B'. It should be greater than 7.
(C) Na_2CO_3 is the salt whose pH is more than, $CuSO_4$ is the salt whose pH is less than 7.
11.
(A) Olfactory indicators: They give different smell in acidic and basic medium e.g., onion, clove, vanilla.
(B) HNO_3 and H_2SO_4 are strong acids among the given acids.
12.
(A) 'A' will show vigorous reaction.
(B) H_2SO_4 is a strong acid, it reacts faster than H_2CO_3 , a weak acid.
(C) H_2 gas. If we bring a burning splinter near the gas, it will burn with 'pop' sound.
(D) $Mg + H_2SO_4 \rightarrow MgSO_4 + H_2$ and $Mg + H_2CO_3 \rightarrow MgCO_3 + H_2$
(E) H_2SO_4 will have lower pH . H_2CO_3 will have lower H^+ ion concentration.

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