# Practice Questions - Term I

Date: 23/11/2021

Subject: Chemistry

Topic : Acids, Bases and Salts Class: X

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1. A solution of _____ when reacts with crushed egg-shells, gives a gas that turns lime-water milky.

   **A.** $NaCl$

   **B.** $HCl$

   **C.** $LiCl$

   **D.** $KCl$

2. When dissolved in water, Arrhenius base is a compound that:

   **A.** Increases the concentration of $H^+$

   **B.** Increases the concentration of $OH^-$

   **C.** Decreases the concentration of $OH^-$

   **D.** Does not change the concentration of $OH^-$

3. Which of the following are the products formed on heating $CuSO_4.5H_2O\ (s)$ ?

   **A.** $CuSO_4.3H_2O\ (s)\ and\ 2CO_2\ (g)$

   **B.** $CuSO_4.10H_2O\ (s)\ and\ 5H_2O\ (g)$

   **C.** $CuSO_4\ (s)\ and\ 5H_2O\ (g)$

   **D.** $CuSO_4.5H_2O\ (s)\ and\ 5H_2O\ (g)$

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4. Which of the following is basic in nature?

   **A.** Lemon

   **B.** Apple

   **C.** Curd

   **D.** Caustic soda

5. Choose the correct statement from the following options.

   **A.** Citric acid will turn red litmus to blue.

   **B.** Acetic acid will turn red litmus to blue.

   **C.** Sodium hydroxide will turn red litmus to blue.

   **D.** Potassium hydroxide will turn blue litmus to red.

6. Which of the following will behave as a strong acid in aqueous solution?

   **A.** $C_2H_5COOH$

   **B.** $H_2SO_4$

   **C.** $HCOOH$

   **D.** $CH_3COOH$

7. A solution X has a pH value of 2 and another solution Y has a pH value of 1. What can be inferred regarding the difference in hydrogen ion concentration between them?

   **A.** Solution X has more hydrogen ion concentration than solution Y

   **B.** Solution Y has more hydrogen ion concentration

   **C.** Both the solutions X and Y have equal hydrogen ion concentration

   **D.** Hydrogen ion concentration does not depend on pH

8. **Assertion**:- Curd is not stored in copper or brass vessels.
**Reason**:- Curd contains acid which reacts with copper or brass vessels and forms toxic substances.

   **A.** Both assertion and reason are true and the reason is the correct explanation of assertion.

   **B.** Both assertion and reason are true but the reason is not the correct explanation of assertion.

   **C.** Only assertion is correct.

   **D.** Only reason is correct.

9. Which of the following is a naturally occuring indicator?

   **A.** Methyl orange

   **B.** Turmeric

   **C.** Phenolphthalein

   **D.** Methyl red

10. Dilute hydrochloric acid $(HCl)$ reacts with metals to evolve _____ gas along with the formation of corresponding metal salt.

   **A.** oxygen

   **B.** hydrogen

   **C.** nitrogen

   **D.** chlorine

11. Identify X in the following reaction:

$$Ca(OH)_2\ (aq) + 2X \rightarrow CaCl_2\ (aq) + 2H_2O\ (l)$$

**A.** $H_2SO_4$

**B.** $HNO_3$

**C.** $HCl$

**D.** $H_2CO_3$

12. Identify the Arrhenius acids among the following:

**1. NaCl** **2. HCl** **3.** $Cu(OH)_2$ **4. NaOH**

**5.** $H_2SO_4$ **6.** $HNO_3$ **7. KOH**

**A.** 1,2 and 5 are acids

**B.** 2,3 and 5 are acids

**C.** 4,6 and 7 are acids

**D.** 2,5 and 6 are acids

13. Choose the products that are formed when magnesium oxide reacts with hydrochloric acid.

**A.** Magnesium hydroxide and oxygen

**B.** Magnesium chloride and carbon dioxide

**C.** Magnesium chloride and water

**D.** Magnesium hydroxide and water

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14. $CaOCl_2$ is the product of the reaction between calcium hydroxide and ___ and is commonly called as ___.

**A.** Chlorine and bleaching powder.

**B.** Fluorine and talcum powder

**C.** Hydrogen and gunpowder

**D.** Nitrogen and lime powder

15. Plaster of Paris is obtained by:

**A.** adding water to calcium sulphate.

**B.** adding sulphuric acid to calcium hydroxide.

**C.** heating gypsum to a very low temperature.

**D.** heating gypsum to $120^{\circ}C$.

16. **Assertion**: Metal oxides are basic in nature.

**Reason:** Metal oxides neutralise the effect of acids and release water, similar to the reaction of a base with an acid**.**

**A.** Both assertion and reason are true and the reason is the correct explanation of assertion.

**B.** Both assertion and reason are true but the reason is not the correct explanation of assertion.

**C.** Only assertion is correct.

**D.** Only reason is correct.

17. In a manufacturing unit of hydrochloric acid situated near a lake, an accident occurs resulting in spillage and leakage of the storage tanks containing hydrochloric acid. The spillage spreads all over an iron structure and also into the lake. The specialists are called for an inspection, who observe fizzing on the surface of the iron structure.

    i) The specialists want to know about the spillage into the lake using litmus paper. Which of the following observations will be true.

    **A.** Red litmus turns blue and blue turns red

    **B.** Red litmus remains red and blue turns red

    **C.** Red litmus turns blue and blue remains blue

    **D.** No change in the colour of litmus paper

18. In a manufacturing unit of hydrochloric acid situated near a lake, an accident occurs resulting in spillage and leakage of the storage tanks containing hydrochloric acid. The spillage spreads all over an iron structure and also into the lake. The specialists are called for an inspection, who observe fizzing on the surface of the iron structure.

    ii) Evolution of _____ gas resulted in fizzing on the surface of iron structure.

    **A.** hydrogen

    **B.** nitrogen

    **C.** oxygen

    **D.** chlorine

19. In a manufacturing unit of hydrochloric acid situated near a lake, an accident occurs resulting in spillage and leakage of the storage tanks containing hydrochloric acid. The spillage spreads all over an iron structure and also into the lake. The specialists are called for an inspection, who observe fizzing on the surface of the iron structure.

    iii) The specialists took a sample of water from the lake. Which of the following can be used to neutralise its acidity?

    **A.** Formic acid

    **B.** Acetic acid

    **C.** Limewater

    **D.** Sodium chloride

20. In a manufacturing unit of hydrochloric acid situated near a lake, an accident occurs resulting in spillage and leakage of the storage tanks containing hydrochloric acid. The spillage spreads all over an iron structure and also into the lake. The specialists are called for an inspection, who observe fizzing on the surface of the iron structure.

    iv) Hydrochloric acid is a _____ acid and dissociates _____ in water.

    **A.** weak, completely

    **B.** strong, partially

    **C.** weak, partially

    **D.** strong, completely