

**DELHI PUBLIC SCHOOL, JAMMU**

**DATE: 20<sup>th</sup> August, 2021 ASSIGNMENT – 2**

**CLASS: X**

**MARKS: 10**

**SUBJECT: CHEMISTRY**

**Instructions:**

**Total no of questions: 10 (Each question carry one mark)**

**TOPIC: Acids, Bases and Salts**

**Based on your understanding of the E-Lectures-cum PPT's, video links and other e-resources shared with you, answer the following questions**

**Type (I) Simple multiple choice questions**

1. In terms of acidic strength, which one of the following is in the correct increasing order?
  - (a) Water < Acetic acid < Hydrochloric acid
  - (b) Water < Hydrochloric acid < Acetic acid
  - (c) Acetic acid < Water < Hydrochloric acid
  - (d) Hydrochloric acid < Water < Acetic acid
  
2. What is formed when zinc reacts with sodium hydroxide?
  - (a) Zinc hydroxide and sodium
  - (b) Sodium zincate and hydrogen gas
  - (c) Sodium zinc-oxide and hydrogen gas
  - (d) Sodium zincate and water
  
3. Sodium acetate is a basic salt because it is a salt of a
  - (a) strong acid and strong base
  - (b) weak acid and weak base
  - (c) strong acid and weak base
  - (d) weak acid and strong base

**Type (II) Complex Multiple choice Questions**

4. Which of the following statements is correct about an aqueous solution of an acid and of a base?
  - (i) Higher the pH, stronger the acid
  - (ii) Higher the pH, weaker the acid
  - (iii) Lower the pH, stronger the base
  - (iv) Lower the pH, weaker the base  
  - (a) (i) and (iii)
  - (b) (ii) and (iii)

- (c) (i) and (iv)
- (d) (ii) and (iv)

### **Type (III) Assertion & Reasoning Type**

#### **Directions:**

In each of the following questions, a statement of Assertion is given followed by a corresponding statement of Reason just below it. Of the statement, mark the correct answer as:

- (A) If both assertion and reason are true and reason is the correct explanation of assertion.
- (B) If both assertion and reason are true but reason is not the correct explanation of assertion.
- (C) If assertion is true but reason is false.
- (D) If assertion is false but reason is true.

5. **Assertion (A) :** Weak acids have low electrical conductivity.

**Reason (R) :** Strong acids and weak acids have equal concentration of hydrogen ions in their solutions.

- (a) A    (b) B    (c) C    (d) D

6. **Assertion (A) :** During electrolysis of concentrated aqueous solution of sodium chloride, hydrogen is produced at anode and chlorine gas is produced at cathode.

**Reason (R) :** Ions get attracted to oppositely charged electrodes.

- (a) A    (b) B    (c) C    (d) D

7. **Assertion (A) :** The chemical formula of bleaching powder is  $\text{CaOCl}_2$ .

**Reason (R) :** Calcium oxide reacts with chlorine to form bleaching powder.

- (a) A    (b) B    (c) C    (d) D

### **Type (IV) Fill in the blanks**

8. Mixing an acid or base with water results in decrease in the concentration of per unit volume. This process is called \_\_\_\_\_.

9. The salts of a strong acid and weak base are called \_\_\_\_\_ salts.

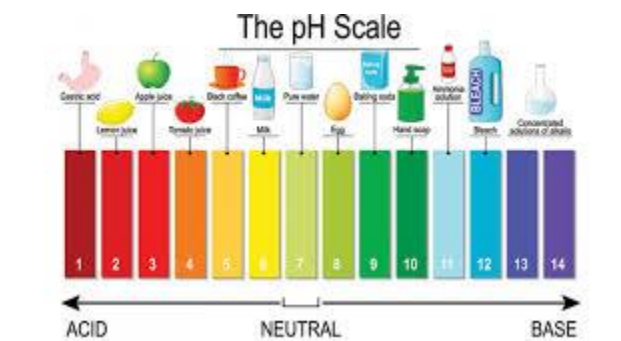
### **Type (V) Case Study questions**

10. pH is quite useful to us in a number of ways in daily life. Some of its applications are:

**Control of pH of the soil :** Plants need a specific pH range for proper growth. The soil may be acidic, basic or neutral depending upon the relative concentration of  $\text{H}^+$  and  $\text{OH}^-$ . The pH of any soil can be determined

by using pH paper. If the soil is too acidic, it can be corrected by adding lime to it. If the soil is too basic, it can be corrected by adding organic manure which contains acidic materials.

**Regaining shine of a tarnished copper vessel by use of acids :** A copper vessel gets tarnished due to formation of an oxide layer on its surface. On rubbing lemon on the vessel, the surface is cleaned and the vessel begins to shine again. This is due to the fact that copper oxide is basic in nature, which reacts with the acid (citric acid) present in lemon to form a salt (copper citrate) which is washed away with water. As a result, the layer of copper oxide is removed from the surface of the vessel and the shining surface is exposed.



1. Which of the following acids is present in bee sting?

- (a) Formic acid
- (b) Acetic acid
- (c) Citric acid
- (d) Hydrochloric acid

2. The pH of soil X is 7.5 while that of soil Y is 4.5. Which of the two soils, should be treated with powdered chalk to adjust its pH?

- (a) X only
- (b) Y only
- (c) Both X and Y
- (d) none of these

**NOTE:**

1. Due date of submission: 27<sup>th</sup> August 2021
2. Send your answer here:
  - a) [jasleenkour2792@gmail.com](mailto:jasleenkour2792@gmail.com) for classes XA, XB, XC
  - b) [bhartimunshi@gmail.com](mailto:bhartimunshi@gmail.com) for classes XD, XE, XF
  - c) [tanvinderkour@gmail.com](mailto:tanvinderkour@gmail.com) for classes XG, XH
  - d) [deepshak.saini24@gmail.com](mailto:deepshak.saini24@gmail.com) for class XI, XJ
3. Students must mention their name, class/section and date in their assignments.
4. Your Assignment will be marked for internal/ Term assessments. Therefore, it is necessary for you to submit it on time.