



# INDIAN SCHOOL AL WADI AL KABIR



<b>CLASS: VII</b>	<b>DEPARTMENT: SCIENCE</b> <b>2022 - 23</b>	<b>DATE: 6/11/2022</b>
<b>WORKSHEET NO: 11</b> <b>WITH ANSWERS</b>	<b>TOPIC: ACIDS, BASES AND</b> <b>SALTS</b>	<b>NOTE: A4 FILE FORMAT</b>
<b>NAME OF THE</b> <b>STUDENT:</b>	<b>CLASS &amp; SEC:</b>	<b>ROLL NO.</b>

## **I. VERY SHORT ANSWER TYPE QUESTIONS (1M):**

- Name the following:
  - Name the acid present in tamarind. [**Tartaric acid**]
  - The products obtained when an acid reacts with a base. [**Salt and water**]
- What is the chemical name of vitamin C? [**Ascorbic acid**]
- Name the source from which litmus is obtained.  
[**It is extracted from lichens. They are available as red and blue litmus paper and also as solution.**]
- You have been given three test tubes A, B and C with some liquid in each. How will you identify their nature – whether acidic, basic or neutral with the help of china rose indicator?  
[**Acidic solution turns dark pink (magenta) but basic solution turns green**]
- Write the name of two indicators which occur naturally.  
[**Turmeric, China rose**]
- Name the reaction when an acid is mixed with base.  
[**Neutralisation reaction.**]
- Name the gases which cause acid rain.  
[**Release of Carbon dioxide, nitrogen dioxide and sulphur dioxide in the atmosphere cause acid rain.**]
- Why acids and bases should be handled with care?  
[**Great care should be taken while handling laboratory acids and bases because these are corrosive in nature, irritating and harmful to skin.**]

9. Which acid is injected into our body by an ant sting that causes pain?

**[Formic acid.]**

10. What does calamine solution contain? **[Zinc Carbonate]**

For question numbers 11 to 13, two statements are given- one labelled Assertion (A) and the other labelled Reason (R).

**Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below -**

**i) Both A and R are true and R is correct explanation of the assertion.**

**ii) Both A and R are true but R is not the correct explanation of the assertion.**

**iii) A is true but R is false.**

**iv) A is false but R is true**

11. **Assertion (A):** Calamine lotion is applied on the skin when an ant bites.

**Reason (R):** Ant bites are painful and cause burning sensations.

**ii) Both A and R are true and R is the correct explanation of the assertion.)**

12. **Assertion (A):** In neutralisation reaction, heat is always produced, or evolved.

**Reason (R):** The evolved heat decreases the temperature of the reaction mixture.

**iii) A is true but R is false.**

13. **Assertion (A):** Blue litmus turns red in the presence of vinegar

**Reason (R):** Vinegar is acidic in nature

**i) Both A and R are true and R is the correct explanation of the assertion.**

## **II. PASSAGE BASED QUESTIONS:**

Our stomach contains hydrochloric acid. It helps us to digest food. But too much of acid in the stomach causes indigestion. Sometimes indigestion is painful. To relieve indigestion, we take an antacid such as milk of magnesia, which contains magnesium hydroxide. It neutralises the effect of excessive acid.

1. Name the acid produced naturally in our stomach.

**Hydrochloric acid**

2. Which medicine is used for treating indigestion caused by overeating?

**Antacid**

3. Name the medicine taken in times of indigestion.

**Magnesium hydroxide**

### III. CASE STUDY BASED QUESTIONS:

- Rahul, Farzin and their friend Kaizad were provided with a test tube each containing China rose solution which was pink in colour. Rahul added two drops of solution 'A' in his test tube and got a dark pink colour. Farzin added 2 drops of solution 'B' to her test tube and got green colour. Kaizad added 2 drops of solution 'C' but could not get any change in colour. Identify A, B, C.  
a] **A – acid, B – base, C – neutral**                      b] A - base, B – acid, C – neutral  
c] A – neutral, B – acid, C – base                      d] A – neutral, B – base, C – acid
- While playing in a park, a child was stung by a bee. Some elders suggested applying paste of baking soda and others lemon juice as remedy. Which remedy do you think is appropriate and why?  
a] Lemon juice as it neutralises the base                      **b] Baking soda as it neutralises the acid**  
c] Lemon juice as it neutralises the acid                      d] Baking soda as it neutralises the base
- Class VII students went for an educational trip to see how various industries and human settlements around river Yamuna, in Delhi, is polluting it deliberately. They saw that factory wastes and municipal wastes are dumped into it untreated. They thought of spreading an awareness programme. They even wrote to Municipal Corporation of the state suggesting ways to reduce this kind of pollution. Answer the given question based on their suggestions. The factory waste can be neutralized by -  
a] acidic substances                      b] salts  
**c] basic substances**                      d] water

### IV. a) SHORT ANSWER TYPE QUESTIONS: (2M)

- Write two differences between acids and bases?  
**[Acids are sour to taste, they turn blue litmus red.**  
**Bases are bitter in taste, turns red litmus blue and are soapy to touch.]**
- What are the effects of acid rain?  
**[Acid rain can cause damage to buildings, historical monuments, plants and animals.]**
- Explain how to prepare lime water in laboratory.  
**[To prepare limewater, dissolve some lime (choona) in water in a tumbler. Stir the solution and keep it for some time. Pour a little from the top. This is lime water.]**

4. What do you mean by neutral solutions? Give two examples.  
**[Solutions which do not change the colour of either red or blue litmus are called neutral solutions. Eg. sugar solution, distilled water.]**
5. Give reasons -
- a) Farmers mix quick lime to the soil.  
**[To neutralise the effect of acidic soil.]**
- b) Factory wastes are neutralised by adding basic substances.  
**[To neutralise the acidic wastes released by the factories.]**
6. Kainaz is trying to wash yellow stain of curry on her cloth with soap, she noticed the stain colour changed to red.
- i) Name the natural indicator present in the curry. **[Turmeric]**
- ii) What is the nature of the soap? **[Basic]**
7. A first aid manual suggests that vinegar should be used to treat wasp sting and baking soda for bee stings. What does this information tell us about the nature of the sting?  
**[Wasp sting is basic and hence to neutralise this effect we apply vinegar. Bee sting is acidic and hence to neutralise this effect we apply a basic solution of baking soda.]**
8. Zarin is suffering from acidity due to indigestion. Is it advisable to give her orange juice in this situation and why?  
**[No it is not advisable to give orange juice as it contains citric acid. Instead milk of magnesia should be given to neutralise the effect of acidity.]**
9. The use of diesel vehicles causes a lot of sulphur dioxide gas emissions. On a rainy day due to heavy traffic jams on the city roads, the emissions were higher than normal. The emission dissolved in rain causing acid rain. What would be the nature of sulphur dioxide gas?  
**[Sulphur dioxide gas dissolves in rain drops to form sulphuric acid which is acidic in nature.]**
10. Write two basic substances which we use in our daily life. **[Baking soda and Soap or detergent]**
11. What is a salt? **[A substance formed by the neutralisation of an acid with a base is called a salt.]**

**IV. b) SHORT ANSWER TYPE QUESTIONS: (3M)**

1. Explain acid rain.  
**[The rain becomes acidic because carbon dioxide, sulphur dioxide and nitrogen dioxide gases which are released into air as pollutants dissolve in rain drops to produce carbonic acid, sulphuric acid and nitric acid respectively. It damages buildings and monuments. Eg. The Taj Mahal]**
2. **ACID + BASE      ~~—————~~ SALT + WATER**

i) What does the acid and base do in the above reaction? **[It neutralizes each other]**

ii) Give an example for this type of reaction.

**[Hydrochloric acid reacts with sodium hydroxide producing salt and water.]**

iii) Write its word equation.

**[Hydrochloric acid + Sodium hydroxide       $\longrightarrow$       Sodium chloride + Water]**

3. Is the distilled water acidic/ basic/ neutral? How would you verify it?

**[Distilled water is neutral in nature. This can be verified by using red and blue litmus papers. Neither of the litmus paper will show change in colour with distilled water. This proves that distilled water is neutral.]**

4. Paheli observed that most of the fish in the pond of her village were gradually dying. She also observed that the wastes of a factory in their village are flowing into the pond which probably caused the fish to die. Explain why the fish were dying?

**[ If the wastes of a factory flow into waterbodies, it can cause a threat to the lives of sea creatures and to anybody who drink the water. Since, factory wastes may contain acids or bases and it can kill the fish.]**

#### **V. LONG ANSWER TYPE QUESTIONS: (5M)**

1. What are the applications of neutralisation reaction in everyday life?  
**[Neutralisation helps us in many ways in our everyday life. Some of the applications are: Indigestion: When we suffer from acidity we take antacid to get relief. Antacid neutralises the effect of excessive acid.**

**Ant bite: When an ant bites, moist baking soda solution or calamine solution is rubbed which neutralises the effect of acid injected into the skin when an ant bites.**

**Soil treatment: Plants do not grow well when the soil is too acidic or too basic. When the soil is too acidic, it is treated with bases like quick lime or slaked lime and when it is basic, organic matter is added to it. Organic matter releases acids which neutralise the basic nature of the soil.**

**Factory wastes: The factory wastes contain acids, they are harmful for water bodies. To neutralise these wastes, basic substances are added to them.**

**Preventing tooth decay: When you brush your teeth using a toothpaste, which contains bases, any kind of acid present in the mouth or teeth cavities is neutralised. This helps in preventing tooth decay.]**

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