12. Introduction to Acid and Bases

Practice Questions

Question. 1) Identify whether the following solution are acid or base.

Solution	Change in Indicator			Acid/ Alkali
	Litmus	Phenolphthalein	Methyl orange	
1	-	No change	-	
2	-	-	Orange colour turns red	
3	Red litmus turns blue	-		

Ans:

Solution	Changes in Indicator			Acid/ Alkali
	Litmus	Phenolphthalein	Methyl orange	
1	-	No change	-	Acid
2	-	-	Orange colour turns red	Acid
3	Red litmus turns blue	-		Alkali

Question. 2) Write chemicals names from given formulae.

H_2SO_4, $Ca(OH)_2$, HCl, NaOH, KOH, NH_4OH

1) H_2SO_4 – Sulphuric acid

2) $Ca(OH)_2$ – Calcium hydroxide

3) HCl – Hydrochloric acid

4) NaOH – Sodium hydroxide

5) KOH – Potassium hydroxide

6) NH_4OH – Ammonium hydroxide

Question. 3) Sulphuric acid has highest importance in chemical industry. Why?

Ans: Sulphuric acid is used in the production of fertilizers like super phosphate of lime and ammonium sulphate. Similarly, sulphuric acid is used in the production of nitric acid, hydrochloric acid, phosphoric acid, ether and metal sulphates, etc. Also it is used for the production of perfumes, medicines, dyes and pesticides. For these reasons sulphuric acid has highest importance in chemical industry.

Question. 4) Answer the following.

1) Which acid is used for getting chloride salt?

Ans: Hydrochloric acid is used for getting chloride salt.

2) By squizzing lemon on a piece of rock the gas liberated turned lime water milky. Which compound is present in the rock?

Ans: Metal carbonate compound is present in the rock.

3) The label on the bottle of chemical is spoiled. How will you find whether the chemical is acidic or not?

Ans: Dip the blue litmus paper in the bottle of chemical. If that blue litmus paper turns red then it will be proved that solution is acidic.

Question. 5) Answers the following questions.

1) Explain the difference between acid and alkali.

Ans:

Acid	Alkali
1) Acids are obtained from non-metals oxides.	1) Alkali are obtained from metal oxides.
2) Acid contain hydrogen (H) as a main constituent.	2) Alkali contain hydroxide (OH) as a main constituent.
3) Acids are sour in taste.	3) Alkali are bitter in taste.
4) Blue litmus turns red in acid.	4) Red litmus turns blue in alkali.

2) Why indicator does not get affected by salt?

Ans: The indicator is an organic compound. Therefore, indicator does not get affected by salt.

3) Which substances are produced by neutralization process?

Ans: The substances like salt and water are produced by neutralization process.

4) Which are the industrial uses of acids?

Ans: The mineral acids like sulphuric acid, hydrochloric acid and nitric acid are used in industrial field.

Question. 6) Fill in the blanks.

1) Main constituent of acid is_____.

Ans: H^+ ion

2) Main constituent of alkali is_____.

Ans: OH^+

3) Tartaric acid is a_____ acid.

Ans: Mild

Question. 7) Match the pairs.

Group A	Group B
1) Tamarind	a) Acetic acid
2) Curd	b) Citric acid
3) Lemon	c) Tartaric acid
4) Vinegar	4) Lactic acid

Ans:

Group A	Group B
1) Tamarind	Tartaric acid
2) Curd	Lactic acid
3) Lemon	Citric acid
4) Vinegar	Acetic acid

Question. 8) Write whether the following statements are true or false.

1) Oxides of metals are alkaline in nature.

Ans: True

2) Salt is acidic.

Ans: False (Salt is neutral)

3) Metal corrodes due to salts.

Ans: False (Metal corrodes due to acid and alkali)

4) Salts are neutral.

Ans: True

Question. 9) Classify following substances into acidic, basic and neutral group.

HCl, NaCl, MgO, KCl, CaO, H_2SO_4, HNO_3, H_2O, Na_2CO_3

Ans:

Substance	Acidic	Basic	Neutral
	HCl, H_2SO_4, HNO_3	CaO, MgO, Na_2CO_3	H_2O, NaCl, KCl

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