

K. Assertion-Reason Questions

In the questions given below two statements are given – one labelled **Assertion (A)** and the other labelled **Reason (R)**. Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

- (a) Both A and R are true, and R is the correct explanation of A.
- (b) Both A and R are true, but R is not the correct explanation of A.
- (c) A is true, but R is false.
- (d) A is false, but R is true.

1. **Assertion:** Amla and lemon turn the colour of blue litmus paper to red.

Reason: Amla and lemon are acidic in nature.

2. **Assertion:** Soap solution and baking soda are basic in nature.

Reason: Blue litmus paper turns red with soap and baking soda.

3. **Assertion:** When an acid is mixed with a base, another substance called salt is formed.

Reason: The salt formed could be acidic or basic in nature.

4. **Assertion:** Rubbing baking soda solution at the ant bite helps to relieve the pain.

Reason: Baking soda neutralises the formic acid released into the skin from ant bite.

5. **Assertion:** Phenolphthalein is a colourless synthetic indicator.

Reason: Phenolphthalein indicator changes to pink, if the solution is basic in nature.

L. Case Study

1. Raman noticed that his father consumed a teaspoon of milk of magnesia when he felt uncomfortable after dinner. On inquiring, his father told him that he felt acidity in stomach and milk of magnesia being basic, in nature neutralised it. Raman remembered that once when he was bitten by an ant, his mother had quickly applied baking soda which is basic in nature and he felt better. Raman tested baking soda and lemon juice with litmus papers and observed that acidic substances turn blue litmus paper red while basic substances turn red litmus paper blue.

- (i) Milk of magnesia helps to sooth the acidity in the stomach as milk of magnesia is
 - (a) milk
 - (b) acidic
 - (c) basic
 - (d) neutral
- (ii) The nature of baking soda is
 - (a) acidic
 - (b) basic
 - (c) neutral
 - (d) salty
- (iii) Lemon juice gave the following reaction with litmus paper.
 - (a) blue litmus to red
 - (b) no reaction with blue litmus

