EXPERIMENT-5

AIM: To study the following properties of acetic acid (ethanoic acid).
1) Odour
2) Solubility in water
3) Effect on litmus paper
4) Reaction with sodium bicarbonate

CHEMICALS REQUIRED:
Sample of acetic acid, sodium bicarbonate, blue litmus paper, lime water.

APPARATUS:
Test tubes, test tube stand, test tube holder, dropper, Bunsen burner, thermometer.

BASIC PRINCIPLES INVOLVED:
Acetic acid has a vinegar-like smell. It is highly soluble in water. It turns blue litmus red. It reacts with sodium carbonate to liberate carbon dioxide gas with brisk effervescence

OBSERVATION TABLE:
STEPS OF EXPERIMENTAL PROCEDURE TO STUDY THE PROPERTIES OF ACETIC ACID:

S.No	Experiment	Observations	Inference
1.	The given sample is taken in a test tube and the odour is smelled carefully.		
2.	2 ml of water is taken in a test tube and 2-3 ml of acetic acid are added and shaken.		
3.	The given sample of acetic acid is tested with blue/red litmus paper.		
4.	2-3 ml of acetic acid is taken in a test tube and a pinch of sodium carbonate are added to it. The gas evolved is passed through lime water.		

RESULT:
Based on the above observations, we conclude that:
1) Acetic acid has --- like smell.
2) Acetic acid is ----- soluble in water.
3) Acetic acid changes ------ litmus.
4) Acetic acid liberates------ from sodium carbonate.

PRACTICAL BASED QUESTIONS

1. What happens when 2 ml of acetic acid was added in drops to 5 mL of water?
2. Ram adds an acetic acid solution to solid sodium hydrogen carbonate. What would he observe?
3. Divansh was asked to identify the test tube containing acetic acid out of the four test tubes A, B, C and D filled with different liquids. He smelled each of them and found:
(i) A gave a very sweet smell.
(ii) B gave a lightly pungent smell.
(iii) C was odourless.
(iv) D gave a bad odour.
Which test tube contains acetic acid?

4. List two observations that you make when you add a pinch of sodium hydrogen carbonate to acetic acid in a test tube. Write the chemical equation for the reaction that occurs.

5. When you add sodium hydrogen carbonate to acetic acid in a test tube, a gas liberates immediately with brisk effervescence. Name this gas. Describe the method of testing this gas.
6. A student is studying the properties of acetic acid. List two physical properties of acetic acid he observes. that happens when he adds a pinch of sodium hydrogen carbonate to this acid? Write any two observations.