

Date : .....

Ex. No. : .....

S. NO.	EXPERIMENT	OBSERVATION	INFERENCE
	<p><b>APPEARANCE AND SOLUBILITY:</b> Appearance is noted and a little of the salt is shaken with <math>H_2O</math></p>	Crystalline & Soluble	May be $SO_4$ , $NO_3$ , $Cl$ or Ammonium Carbonate
	<p><b>ACTION OF HEAT</b> A small amount of the salt is heated gently in a dry test tube.</p>	No characteristic change	Absence of $CO_3$ , $NO_3$ , $NH_4$ , $Zn$
	<p><b>FLAME TEST:</b> A small amount of the salt is made into a pearl with conc. <math>HCl</math> in a watch glass and introduced into the <del>non</del>-luminous part of the Bunsen flame.</p>	No characteristic coloured flame.	Absence of $Cu$ , $Ca$ and $Ba$ .

ASH TEST :

A filter paper is soaked into a paste of the salt with conc. HCl / HNO<sub>3</sub> and Cobalt Nitrate solution in a watch glass and burnt.

Blue ash

Presence of aluminium

ii) TEST FOR ACID RADICALS

ACTION OF DIL. HCl :

To a small amount of dil. HCl, the salt is added.

No characteristic change

Absence of sulphide and carbonate.

COPPER TURNINGS TEST :

A small amount of the salt is heated with copper turnings / filter paper ball and a few drops of conc. Sulphuric acid.

No reddish brown gas evolved.

Absence of Nitrate.

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	<p><b>CHROMYL CHLORIDE TEST :</b></p>		
	<p>To a small amount of the salt, a pinch of Potassium dichromate is added and heated with few drops of conc. <math>H_2SO_4</math>.</p>	<p>No red orange vapour</p>	<p>Absence of chloride</p>
	<p><b>ACTION OF NaOH :</b></p>		
	<p>A small amount of the salt is heated with NaOH.</p>	<p>No pungent smelling gas</p>	<p>Absence of Ammonium-</p>
	<p><b>III PREPARATION OF SODIUM CARBONATE EXTRACT</b></p> <p>A small amount of the sodium carbonate and 20 ml of distilled water is added, boiled for 10 minutes, cooled and filtered. The filtrate is called "SODIUM CARBONATE EXTRACT".</p>		

### BARIUM CHLORIDE TEST:

To a few drops of the extract, dil. HCl is added until the effervescence ceases and 2ml of Barium Chloride solution is added.

A white precipitate insoluble in conc. HCl

Sulphate is confirmed

### SILVER NITRATE TEST:

To a few drops of the extract, dil.  $\text{HNO}_3$  is added until effervescence ceases and 2 ml of silver nitrate sol<sup>n</sup> is added.

No precipitate

Absence of chloride / sulphide

### BROWN RING TEST:

To a few drops of extract, dil. HCl is added until effervescence ceases, then, freshly prepared  $\text{FeSO}_4$  is added and then conc.  $\text{H}_2\text{SO}_4$

No brown ring

Absence of Nitrate

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	is added drop by drop along the sides of test tube.		
	<u>IV</u> IDENTIFICATION OF BASIC RADICALS		
	PREPARATION OF ORIGINAL SOLUTIONS :		
	The original solution is prepared by dissolving the salt in water, dil. HCl or dil. HNO <sub>3</sub> [when the salt is water insoluble].		
	To a few drops of the original solution NaOH and Hender's reagent is added.	ZERO GROUP No reddish brown precipitate	Absence of ammonia.
	To a few drops of the original <del>solution</del> 2ml of dil. HCl is added.	GROUP IDENTIFICATION No characteristic precipitate	Absence of first group [lead].

To a few drops of the original solution 2ml of dil. HCl is added and  $H_2S$  gas is passed.

No characteristic precipitate

Absence of second group [Copper].

To a few drops of the original solution 1ml  $NH_4Cl$  and 2ml  $NH_4OH$  solutions are added.

Gelatinous white precipitate

Presence of third group [Aluminium].

### V CONFIRMATORY TEST FOR BASIC RADICALS

#### THIRD GROUP - ALUMINIUM

To a few drops of the original solution  $NH_4OH$  is added in drops to excess.

White precipitate soluble in excess of  $NH_4OH$ .

Aluminium is confirmed.

To a few drops of the original solution, Ammonium hydroxide and Thimmon reagent are added.

A bright red lake

Aluminium is confirmed.

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	<p>RESULT :</p> <p>The given simple salt contain</p> <p>1) Basic Radical <math>\rightarrow</math> Aluminium</p> <p>2) Acid Radical <math>\rightarrow</math> Sulphate</p>		
	<p>The given simple salt is Aluminium sulphate.</p>		