EXPERIMENT NO. 17

Qualitative Analysis

At each stage of any test you are to record details of the following.

- colour changes seen
- the formation of any precipitate
- the solubility of such precipitates in an excess of the reagent added

Where reagents are selected for use in a test, the **name** or **correct formula** of the element or compound must be given.

Where gases are released they should be identified by a test, **described in the appropriate place in your observations**.

You should indicate clearly at what stage in a test a change occurs.
No additional tests for ions present should be attempted.

If any solution is warmed, a boiling tube MUST be used.
Rinse and reuse test-tubes and boiling tubes where possible.

(a) (i) **FA 6** and **FA 7** are aqueous solutions.
Each solution contains one cation and one anion from those listed in the Qualitative Analysis Notes.

Use 1 cm depths of **FA 6** or **FA 7** in test-tubes for the following tests.
Complete the table by recording your observations.

test	*observations*	
	FA 6	**FA 7**
Add a few drops of aqueous barium chloride or aqueous barium nitrate, then		
add dilute nitric acid.		
Add a few drops of aqueous silver nitrate.		
Add a small spatula measure of sodium carbonate. Shake the mixture.		

(ii) From your observations, deduce which solution, **FA 6** or **FA 7**, has the lower pH.
Give your evidence.

solution with lower pH .....

evidence .....

.....

[4]

(b) Choose **two** reagents that would allow you to identify the cations in **FA 6** and **FA 7**.

reagents ..... and .....

Use these reagents to test solutions **FA 6** and **FA 7**.
Record all your observations in the space below.

[4]

(c) Deduce the chemical **formulae** of **FA 6** and **FA 7**.

FA 6 .....

FA 7 .....

[2]

[Total: 10]