

Acid and Alkali

Total mark – 16

Question: 1

1 Which of these pH values shows the pH of a strong acid?

- A 1
- B 5
- C 7
- D 10

Your answer

[1]

Question: 2

12 What is the name of the gas made when zinc carbonate reacts with hydrochloric acid?

- A Carbon dioxide
- B Chlorine
- C Hydrogen
- D Oxygen

Your answer

[1]

Question: 3

17 Acids are substances that turn universal indicator paper red.

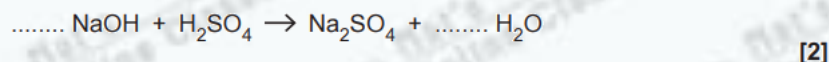
(a) (i) What makes a substance acidic?

..... [1]

(ii) Sodium hydroxide, NaOH, is an alkali.

Sodium hydroxide neutralises sulfuric acid, H_2SO_4 . The reaction makes a salt called sodium sulfate, Na_2SO_4 . Water is also made.

Complete the **balanced symbol equation** for this reaction.



(b) A student investigates the reaction of an aqueous solution of sodium hydroxide and sulfuric acid. During the experiment, the student tests the pH of the solution with universal indicator.

(i) Suggest a piece of equipment that the student could use instead of universal indicator paper to test the pH of the solution.

..... [1]

(ii) Describe how to use the equipment suggested in (b)(i).

.....
.....
..... [2]

Question: 4

26 A student has a solution of hydrochloric acid, HCl , and a solution of sodium hydroxide, NaOH .

He wants to make a pure, dry sample of sodium chloride.

(a) Describe how he can do this.

Include the apparatus he should use and his method.

[4]

(b) Write a **balanced symbol** equation for the reaction.

..... [1]

(c) The student also investigates other reactions.

The table shows the salts he can make from different starting materials.

Complete the table.

Acid used	Other starting material	Salt made
Sulfuric acid	Copper oxide
.....	Zinc carbonate	Zinc nitrate
Hydrochloric acid	Magnesium chloride

[3]

(d) What **type** of reaction happens when sulfuric acid reacts with copper oxide?

[1]

