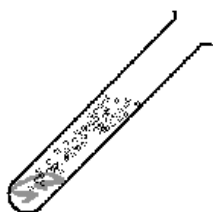


## Question 1



- (i) Name the gas produced when zinc is placed in a solution of hydrochloric acid. \_\_\_\_\_
- (ii) Name one metal which is less reactive than zinc when placed in hydrochloric acid. \_\_\_\_\_

(6)

## Question 2



State any two reasons why the recycling of plastics is considered to be of benefit to the environment.

Reason 1 \_\_\_\_\_

\_\_\_\_\_

Reason 2 \_\_\_\_\_

\_\_\_\_\_

(6)

## Question 3

The process of galvanising is named after the Italian scientist Luigi Galvani, pictured on the right. Galvanising involves coating iron or steel with a layer of zinc.

- (i) What is the purpose of galvanising?

\_\_\_\_\_

\_\_\_\_\_

- (ii) What is the chemical symbol for zinc? \_\_\_\_\_



(6)

## Question 4

Sodium is an alkali metal which is usually stored in a container of oil, as in the picture on the right.



(i) Why is sodium stored in a container of oil?

\_\_\_\_\_

\_\_\_\_\_

(ii) Name one other alkali metal. \_\_\_\_\_

(iii) Sodium reacts with water to produce a colourless gas.  
Name the gas produced. \_\_\_\_\_

(iv) Describe how a student could test for the presence of the gas produced when sodium reacts with water. \_\_\_\_\_

\_\_\_\_\_

(12)

## Question 5



Throughout history, gold and alloys of gold have been used in the making of jewellery. (9)

(i) What is an alloy?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(ii) One of the reasons why gold is so valuable to jewellers is that it is the most malleable of metals. What is meant by the term *malleable*?

\_\_\_\_\_

(iii) In the middle-ages jewellers tested the purity of a piece of gold by pouring acid onto a small sample of it.

This was the so-called “acid test” for gold.

Of the following four metals, underline the one which is least reactive with acid.

Calcium

Copper

Magnesium

Zinc

## Question 6

Explain what a ‘biodegradable plastic’ means.

Explanation \_\_\_\_\_

\_\_\_\_\_

(3)

## Question 7

A science student investigated the conditions for the rusting of iron nails. A diagram of the apparatus used is given below.

- (i) Why did the iron nail rust only in test tube A?

\_\_\_\_\_

\_\_\_\_\_

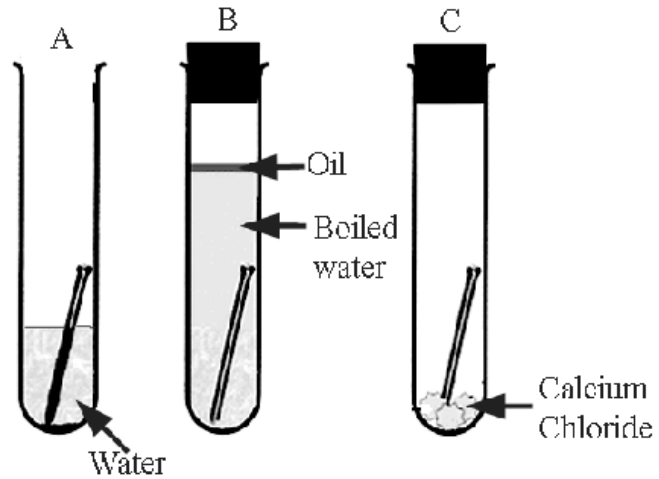
\_\_\_\_\_

- (ii) Why did the iron nail not rust in test tube B?

\_\_\_\_\_

- (iii) Why did the iron nail not rust in test tube C?

\_\_\_\_\_



(9)

## Question 8

The photograph shows severe rusting of the steel body of a motorcar. Give one condition necessary for rusting to occur. Describe one method of preventing rust happening.



Condition \_\_\_\_\_

\_\_\_\_\_

Method \_\_\_\_\_

\_\_\_\_\_

(6)

## Question 9

Name a **raw material** used to make plastics.

**Raw material** \_\_\_\_\_

Some plastics are non-biodegradable. Explain the underlined term.

**Explain** \_\_\_\_\_

(6)