

Name and Surname: \_\_\_\_\_ Gr. 8 \_\_\_\_\_ DATE: \_\_\_\_\_

### SECTION A

#### QUESTION 1

1.1 Write the **LETTER** (A, B, C or D) of the correct answer on the line provided.

1.1.1 When an electric current flows through water in an electrolytic cell, water is broken down to ...

- A water vapour.
- B hydrogen and oxide.
- C hydrogen and oxygen.
- D copper and chlorine.

**Answer:** \_\_\_\_\_ (1)

1.1.2 The **SOLUTION** in an electrolytic cell through which the electric current flows.

- A Electrolyte
- B Electrolysis
- C Electrode
- D Electrolytic cell

**Answer:** \_\_\_\_\_ (1)

1.1.3 The carbon rod which conducts the electric current into the solution in an electrolytic cell.

- A Electrolyte
- B Electrode
- C Electrolysis
- D Electrolytic cell

**Answer:** \_\_\_\_\_ (1)

1.2 Give the **CORRECT TERM** for each of the descriptions.

1.2.1 The type of circuit that provides two or more pathways for the current to flow through.

**Answer:** \_\_\_\_\_ (1)

1.2.2 Circuit components that oppose the flow of electric current.

**Answer:** \_\_\_\_\_ (1)  
[5]

### SECTION B

#### QUESTION 2

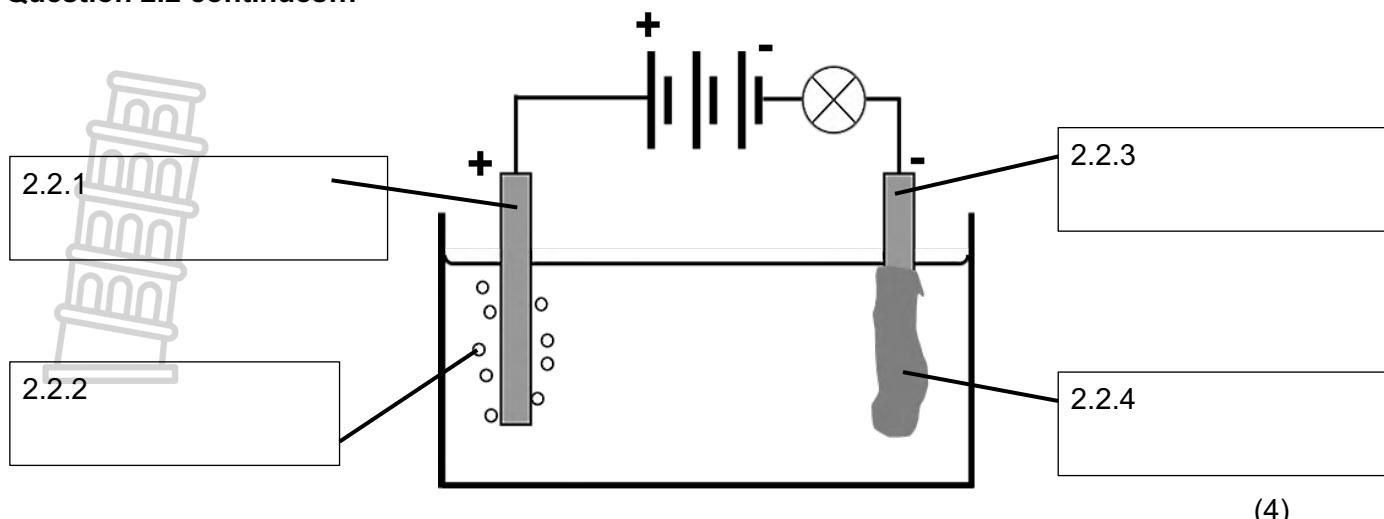
2.1 Name the **PROCESS** that takes place when an electric current breaks down a compound.

\_\_\_\_\_ (1)

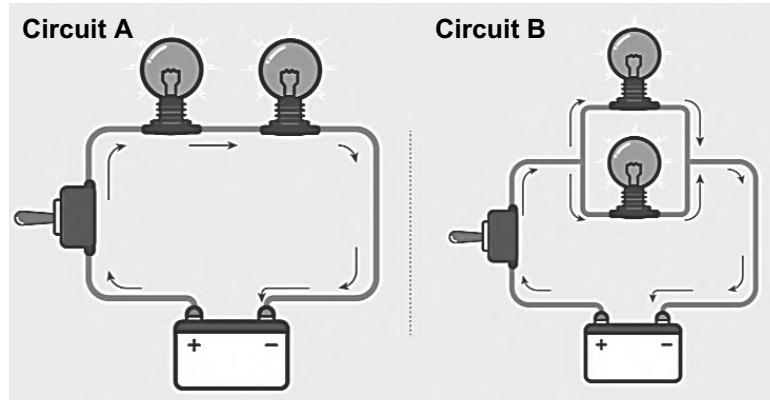
2.2 The diagram on the next page shows an electrolytic cell with a blue copper chloride solution. Use the words in the word box to label parts 2.2.1 to 2.2.4 on the diagram.

Anode	Cathode	Chlorine gas	Copper metal
-------	---------	--------------	--------------

## Question 2.2 continues...


 2.3 Study **Circuit A** and **Circuit B**.

You may assume that Circuits A and B have identical batteries and bulbs, and all the bulbs in both circuits are glowing.



## 2.3.1 Explain why the bulbs in Circuit A glow dimmer than the bulbs in Circuit B.

---



---

(2)

 2.3.2 In the open space below, draw a circuit diagram to illustrate **Circuit B**. Use the correct SYMBOL for each circuit component.


(2)  
 [10]

TOTAL MARK: 15

## MEMORANDUM

## SECTION A

## QUESTION 1

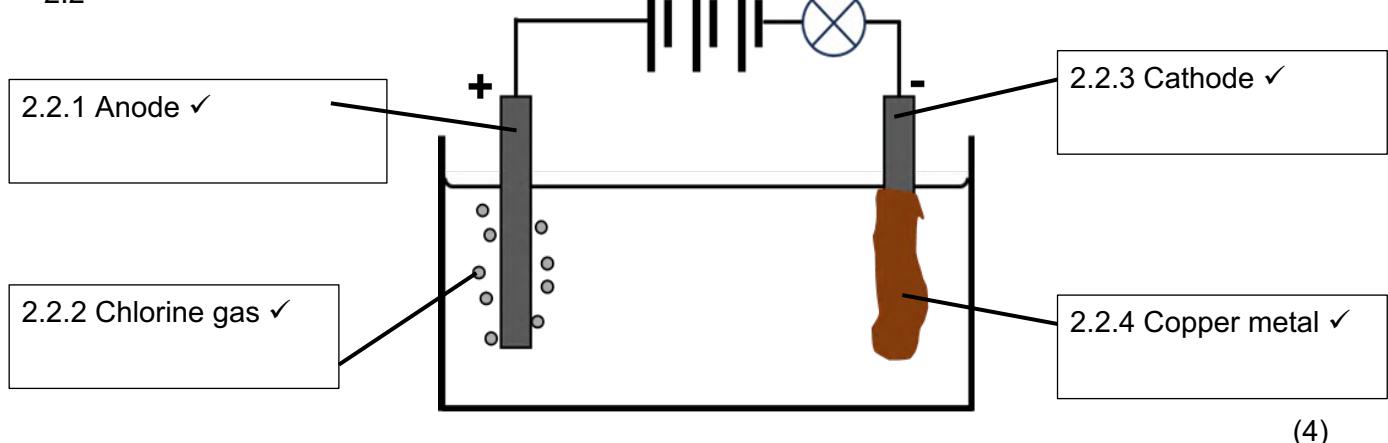
1.1.1	C ✓	(1)
1.1.2	A ✓	(1)
1.1.3	B ✓	(1)
1.2.1	Parallel (circuit) ✓	(1)
1.2.2	Resistors ( <b>Accept:</b> Bulbs) ✓	(1)
		[5]

## SECTION B

## QUESTION 2

2.1 Electrolysis ✓ (1)

2.2

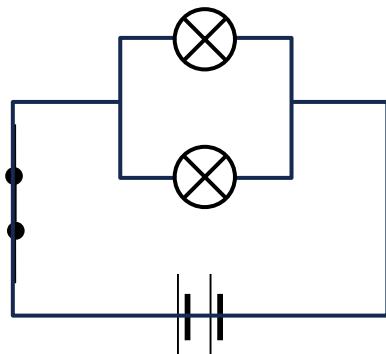


2.3.1 The bulbs in Circuit A are connected in series✓; not in parallel as in Circuit B. The overall resistance in Circuit A is higher✓ than in Circuit B, and the bulbs glow dimmer.

OR

The overall resistance in Circuit B is lower than in Circuit A✓ because the bulbs are in parallel.✓ Therefor the bulbs in Circuit B are brighter than in Circuit A. (2)

2.3.2



**Marking criteria:**

TWO bulbs in parallel.✓

CLOSED switch✓ (bulbs glow; current is flowing).

Battery / One or more cells in series.✓

**NOTE:** Components can be arranged in any order.

(2)

[10]

**TOTAL MARK:** 15