AQA Chemistry GCSE

Required Practical 3 - Electrolysis
Past Exam Questions

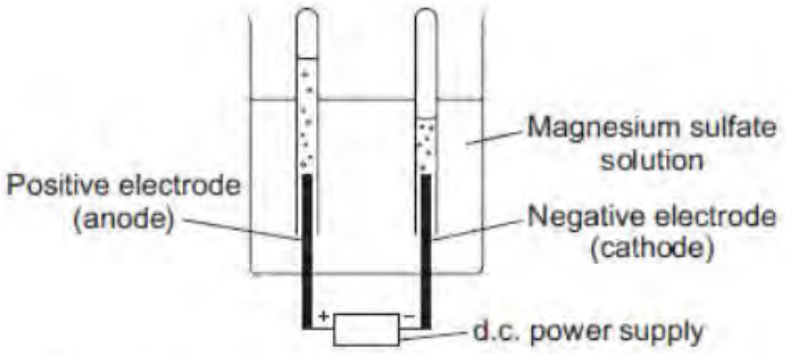
Q1. What are the products of electrolysing potassium iodide solution?
Tick one box.

Product at cathode	Product at anode	
Hydrogen	Iodine	☐
Hydrogen	Oxygen	☐
Potassium	Iodine	☐
Potassium	Oxygen	☐

(1)

Q2. Diagram 1 shows the apparatus used to electrolyse magnesium sulfate solution.

Diagram 1



Gases were given off at both electrodes.

(a) The gas collected at the anode was oxygen.
Draw one line from the test for oxygen to the correct result.

Test	Result
	The splint relights
Place a glowing splint in the tube of the gas	The splint goes out
	There is a squeaky pop

(1)

(b) (i) The gas collected at the cathode was hydrogen.
Describe how to test the gas to show that it is hydrogen.

Test .....

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Result .....

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(2)

(ii) Why is hydrogen, and not magnesium, produced at the cathode?

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(1)

(c) A student wanted to use electrolysis to silver plate a metal spoon.
(i) Give one reason why metal spoons are sometimes silver plated.

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(1)

(ii) Diagram 2 shows the apparatus the student used. The student did not set the apparatus up correctly.

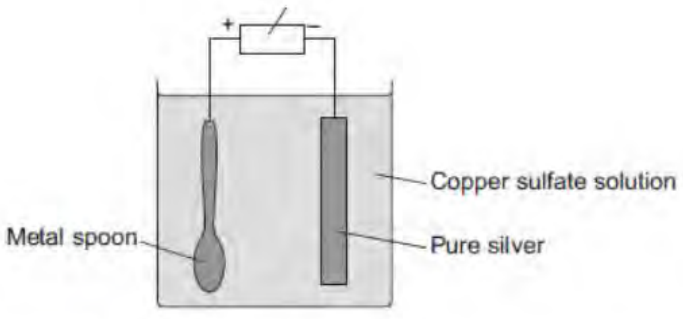

Diagram 2 d.c. power supply

The student found that the metal spoon eroded and a thin layer of copper formed on the pure silver electrode.
Suggest two changes that the student must make to his apparatus to be able to silver plate the metal spoon. Give a reason for each change.

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(4)

(iii) Why is it difficult to electroplate plastic spoons?

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(1)

Q3. Aluminium is extracted by electrolysis, as shown in Figure 2

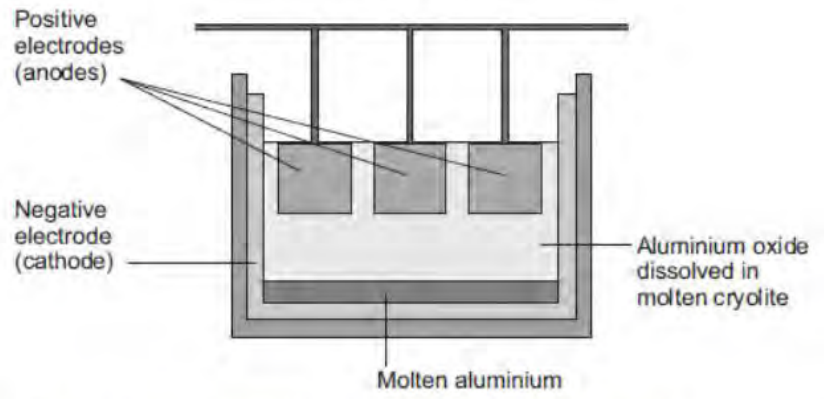

Figure 2

(i) Why can aluminium not be extracted by heating aluminium oxide with carbon?

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(1)

(ii) Explain why aluminium forms at the negative electrode during electrolysis.

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(3)

(iii) Explain how carbon dioxide forms at the positive electrodes during electrolysis.

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(3)