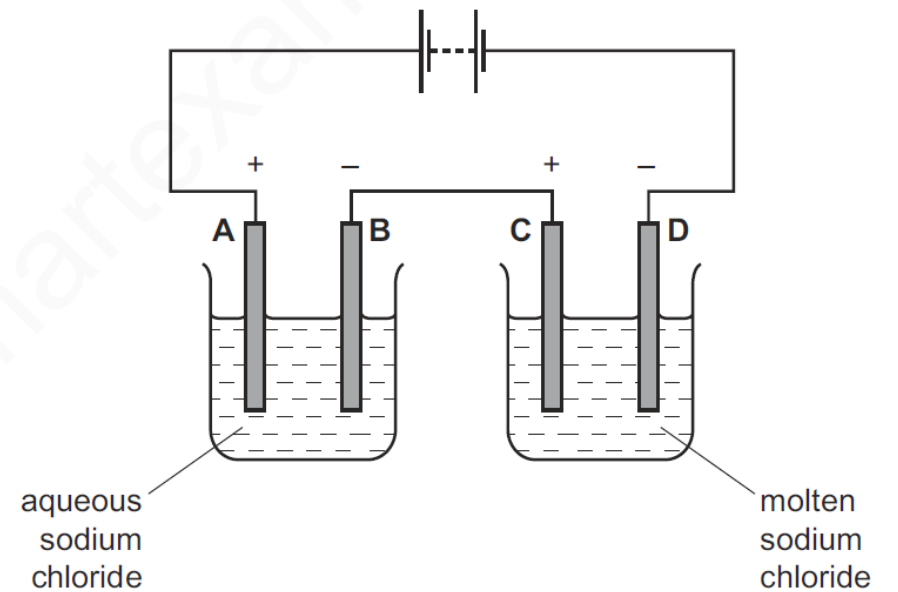


NO:	<b>ELECTROLYSIS-AQUEOUS COMPOUNDS-SET-1</b>															
1	<p>In which electrolyses are chlorine, hydrogen and sodium hydroxide all produced?</p> <table border="1" data-bbox="277 359 1214 678"> <thead> <tr> <th></th> <th>aqueous sodium chloride</th> <th>molten sodium chloride</th> </tr> </thead> <tbody> <tr> <td><b>A</b></td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✓</td> </tr> <tr> <td><b>B</b></td> <td style="text-align: center;">✓</td> <td style="text-align: center;">✗</td> </tr> <tr> <td><b>C</b></td> <td style="text-align: center;">✗</td> <td style="text-align: center;">✓</td> </tr> <tr> <td><b>D</b></td> <td style="text-align: center;">✗</td> <td style="text-align: center;">✗</td> </tr> </tbody> </table>		aqueous sodium chloride	molten sodium chloride	<b>A</b>	✓	✓	<b>B</b>	✓	✗	<b>C</b>	✗	✓	<b>D</b>	✗	✗
	aqueous sodium chloride	molten sodium chloride														
<b>A</b>	✓	✓														
<b>B</b>	✓	✗														
<b>C</b>	✗	✓														
<b>D</b>	✗	✗														
Ms-1	B															
2	<p>Aqueous copper(II) sulfate solution is electrolysed using inert electrodes.</p> <p>Copper(II) ions (<math>\text{Cu}^{2+}</math>), hydrogen ions (<math>\text{H}^+</math>), hydroxide ions (<math>\text{OH}^-</math>) and sulfate ions (<math>\text{SO}_4^{2-}</math>) are present in the solution.</p> <p>To which electrodes are the ions attracted during this electrolysis?</p> <table border="1" data-bbox="277 1083 911 1341"> <thead> <tr> <th></th> <th>attracted to anode</th> <th>attracted to cathode</th> </tr> </thead> <tbody> <tr> <td><b>A</b></td> <td style="text-align: center;"><math>\text{Cu}^{2+}</math> and <math>\text{H}^+</math></td> <td style="text-align: center;"><math>\text{OH}^-</math> and <math>\text{SO}_4^{2-}</math></td> </tr> <tr> <td><b>B</b></td> <td style="text-align: center;"><math>\text{Cu}^{2+}</math> and <math>\text{SO}_4^{2-}</math></td> <td style="text-align: center;"><math>\text{H}^+</math> and <math>\text{OH}^-</math></td> </tr> <tr> <td><b>C</b></td> <td style="text-align: center;"><math>\text{H}^+</math> and <math>\text{OH}^-</math></td> <td style="text-align: center;"><math>\text{Cu}^{2+}</math> and <math>\text{SO}_4^{2-}</math></td> </tr> <tr> <td><b>D</b></td> <td style="text-align: center;"><math>\text{OH}^-</math> and <math>\text{SO}_4^{2-}</math></td> <td style="text-align: center;"><math>\text{Cu}^{2+}</math> and <math>\text{H}^+</math></td> </tr> </tbody> </table>		attracted to anode	attracted to cathode	<b>A</b>	$\text{Cu}^{2+}$ and $\text{H}^+$	$\text{OH}^-$ and $\text{SO}_4^{2-}$	<b>B</b>	$\text{Cu}^{2+}$ and $\text{SO}_4^{2-}$	$\text{H}^+$ and $\text{OH}^-$	<b>C</b>	$\text{H}^+$ and $\text{OH}^-$	$\text{Cu}^{2+}$ and $\text{SO}_4^{2-}$	<b>D</b>	$\text{OH}^-$ and $\text{SO}_4^{2-}$	$\text{Cu}^{2+}$ and $\text{H}^+$
	attracted to anode	attracted to cathode														
<b>A</b>	$\text{Cu}^{2+}$ and $\text{H}^+$	$\text{OH}^-$ and $\text{SO}_4^{2-}$														
<b>B</b>	$\text{Cu}^{2+}$ and $\text{SO}_4^{2-}$	$\text{H}^+$ and $\text{OH}^-$														
<b>C</b>	$\text{H}^+$ and $\text{OH}^-$	$\text{Cu}^{2+}$ and $\text{SO}_4^{2-}$														
<b>D</b>	$\text{OH}^-$ and $\text{SO}_4^{2-}$	$\text{Cu}^{2+}$ and $\text{H}^+$														
Ms-2	D															

3	<p>Three electrolysis cells are set up. Each cell has inert electrodes.</p> <p>The electrolytes are listed below.</p> <p>cell 1     aqueous sodium chloride</p> <p>cell 2     concentrated hydrochloric acid</p> <p>cell 3     molten lead(II) bromide</p> <p>In which cells is a gas formed at <b>both</b> electrodes?</p> <p><b>A</b> 1 and 2        <b>B</b> 1 and 3        <b>C</b> 2 only        <b>D</b> 3 only</p>
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Ms-3	A
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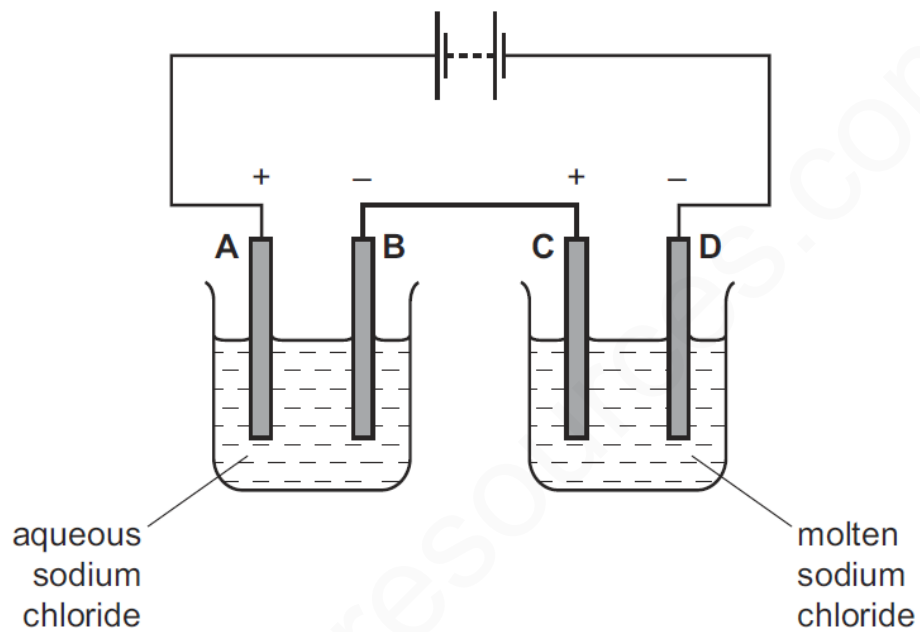
4	<p>The diagram shows an electrolysis circuit.</p> <p>At which electrode is hydrogen formed?</p>  <p style="text-align: center;"> <span style="margin-right: 150px;">aqueous sodium chloride</span> <span>molten sodium chloride</span> </p>
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Ms-4	B
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5

The diagram shows an electrolysis circuit.

At which electrode is hydrogen formed?



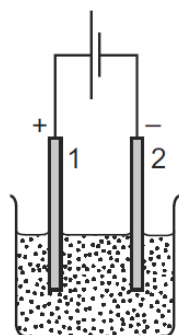
Ms-5

B

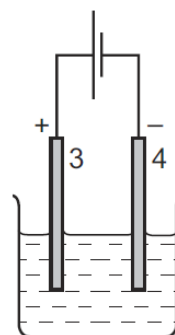
6

Two electrolysis experiments were carried out as shown in the diagram below.

The graphite electrodes are labelled 1-4.



molten  
sodium chloride



concentrated aqueous  
sodium chloride

Which row describes the products at the electrodes in these experiments?

	electrode 1	electrode 2	electrode 3	electrode 4
<b>A</b>	chlorine	hydrogen	chlorine	hydrogen
<b>B</b>	chlorine	sodium	chlorine	hydrogen
<b>C</b>	chlorine	sodium	hydrogen	chlorine
<b>D</b>	sodium	chlorine	sodium	chlorine

Ms-6

B

7

I One molten compound and two aqueous solutions were electrolysed.

The table gives the compounds electrolysed and the electrodes used.

	substance electrolysed	electrodes
1	concentrated hydrochloric acid	carbon
2	concentrated sodium chloride	platinum
3	molten lead bromide	platinum

In which experiments is a gas evolved at the cathode?

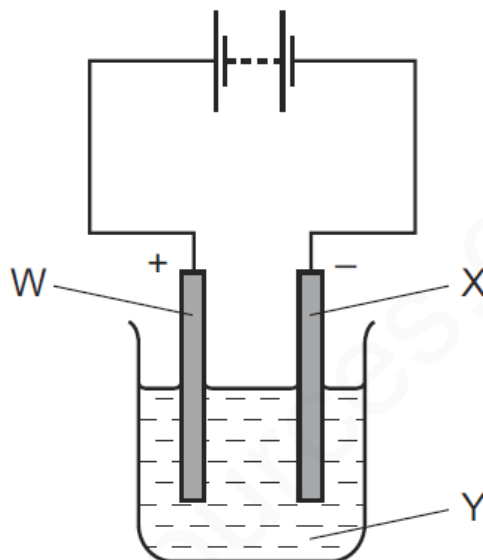
**A** 1, 2 and 3      **B** 1 and 2 only      **C** 1 only      **D** 3 only

Ms-7

B

8

In the electrolysis shown, chlorine is produced at W and sodium at X.



Which labels are correct?

	W	X	Y
<b>A</b>	anode	cathode	$\text{NaCl}(\text{l})$
<b>B</b>	anode	cathode	$\text{NaCl}(\text{aq})$
<b>C</b>	cathode	anode	$\text{NaCl}(\text{l})$
<b>D</b>	cathode	anode	$\text{NaCl}(\text{aq})$

Ms-8

A