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## **Multiple-Choice Questions on Electrochemistry**

**1.** All of the following substances can conduct electricity.

Which substance's conductivity is not due to the movement of electrons?

- **A** Aluminium
- B Graphite
- **C** Lithium chloride
- D Mercury
- 2. Two cells, **P** and **Q**, containing different liquids, were connected in series with a battery, a suitable lamp and inert electrodes, as shown in the diagram.



For which pair of liquids did the lamp light up?

	in <b>P</b>	in <b>Q</b>
Α	concentrated sodium chloride solution	concentrated sugar solution
В	copper(II) sulfate solution	propanol
С	ethanol	molten lead(II) bromide
D	mercury	dilute hydrochloric acid

- **3.** Which element requires the largest number of electrons for one mole of the metal to be formed from its aqueous ions during electrolysis?
  - A Aluminium B Calcium
  - C Copper D Sodium

**4.** Which row in the table describes the processes occurring at the electrodes when molten sodium chloride is electrolysed?

	anode	cathode
Α	oxidation	reduction
В	reduction	oxidation
С	oxidation	oxidation
D	reduction	reduction

- **5.** Which ionic equation represents the reaction taking place at the anode during the electrolysis of molten aluminium oxide?
  - **A**  $Al^{3+}$  +  $3e^- \rightarrow Al$
  - $\textbf{B} \quad 2Al^{3+} \ \textbf{+} \ 3O_2 \ \rightarrow \ Al_2O_3$

$$\mathbf{C} \quad \mathbf{O}^{2-} - \mathbf{2}\mathbf{e}^{-} \rightarrow \mathbf{O}_2$$

- $\textbf{D} \quad 2O^{2\text{-}} 4e^{\text{-}} \rightarrow O_2$
- 6. In the experiment shown in the diagram, the bulb lights and a gas is produced at each electrode.



What is X?

- A Aqueous copper(II) sulfate
- B Concentrated aqueous sodium chloride
- **C** Ethanol
- D Molten lead(II) bromide

**7.** The diagram shows the electrolysis of aqueous sodium chloride and of molten sodium chloride.



Which substance in the diagram has both positive ions and mobile electrons?

- A Aqueous sodium chloride B Copper wire
- C Graphite electrodes D Molten sodium chloride
- **8.** When dilute sulfuric acid is electrolysed between inert electrodes, which statements are correct?
  - 1 Hydrogen is released at the negative electrode.
  - 2 Oxygen is released at the positive electrode.
  - 3 Sulfur dioxide is released at the positive electrode.
  - 4 The acid becomes more concentrated.
  - A 1, 2 and 4 B 1 and 2 only
  - C 2 and 3 only D 3 and 4 only
- **9.** Which changes are observed during the electrolysis of aqueous copper(II) sulfate using copper electrodes?
  - 1 A pink solid is deposited on the negative electrode.
  - 2 Bubbles form on the positive electrode.
  - 3 The colour of the solution does not change.
  - A 1 and 2 only B 1 and 3 only
  - **C** 2 and 3 only **D** 1, 2 and 3
- **10.** Molten salts of four metals are electrolysed.

The ions of which metal require the smallest number of electrons for one mole of atoms to be liberated during electrolysis?

- A Aluminium B Calcium
- C Iron D Sodium

**11.** When electrolysed using inert electrodes, which dilute solution would produce the greatest increase in mass of the cathode?



**12.** The experiment shown is used to test potassium bromide crystals.



The lamp does not light. Distilled water is then added to the beaker and the lamp lights. Which statement explains these results?

- A Electrons are free to move in the solution when potassium bromide dissolves.
- **B** Metal ions are free to move when potassium bromide melts.
- **C** Metal ions are free to move when potassium reacts with water.
- **D** Oppositely charged ions are free to move in the solution when potassium bromide dissolves.

- **13.** Which occurs during the electrolysis of dilute sulfuric acid?
  - A Hydrogen and oxygen are formed in the ratio two volumes of oxygen to one volume of hydrogen.
  - **B** Hydrogen is formed at the positive electrode.
  - **C** Oxide ions are oxidised to oxygen.
  - **D** The dilute sulfuric acid becomes more concentrated.
- **14.** Aqueous copper(II) sulfate is electrolysed using copper as the positive electrode and carbon as the negative electrode.

Which row gives correct information about this electrolysis?

	positive electrode	negative electrode	electrolyte
Α	electrode dissolves	copper deposited	stays a constant blue colour
В	electrode dissolves	hydrogen gas given off	blue colour becomes darker
С	hydrogen gas given off	oxygen gas given off	stays a constant blue colour
D	oxygen gas given off	hydrogen gas given off	stays a constant blue colour

**15.** When aqueous copper(II) sulfate is electrolysed using copper electrodes, which observations are correct?

	positive electrode	negative electrode	intensity of blue colour of electrolyte
Α	electrode becomes smaller	electrode becomes bigger	constant
в	electrode becomes smaller	gas given off	fades
С	gas given off	electrode becomes bigger	fades
D	gas given off	gas given off	constant

- **16.** Three different solutions were electrolysed using inert electrodes.
  - Solution 1 aqueous sodium chloride.
  - Solution 2 concentrated hydrochloric acid.
  - Solution 3 dilute sulfuric acid.

Which solutions produce hydrogen at the negative electrode?

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

- **17.** What is observed during the electrolysis of aqueous copper(II) sulfate using carbon electrodes?
  - **A** A pink solid is deposited on the anode.
  - **B** Bubbles form on the negative electrode.
  - **C** The colour of the solution fades.
  - **D** The negative electrode becomes smaller.
- 18. Electrolysis is used to plate a metal statue with silver.The statue is an electrode in a suitable electrolyte.Which row is correct?

	statue	electrolyte
Α	cathode	AgC <i>l</i> (aq)
В	cathode	AgNO₃(aq)
С	anode	AgC <i>l</i> (aq)
D	anode	AgNO₃(aq)

**19.** The diagram shows an electrolysis experiment using inert electrodes.



Which row shows what happens to the concentration of the electrolyte in L and in M as the electrolysis proceeds?

	L	М
Α	$\checkmark$	$\checkmark$
в	$\checkmark$	×
с	×	$\checkmark$
D	×	×



**20.** Molten sodium chloride is electrolysed.

Which equation correctly shows the reaction that occurs at the cathode?

- $\textbf{A} \quad 2Cl^- + 2e^- \rightarrow Cl_2$
- $\textbf{B} \quad 2Cl^{-} \ \ 2e^{-} \ \rightarrow \ Cl_{2}$
- **C** Na<sup>+</sup> +  $e^- \rightarrow$  Na
- **D** Na<sup>+</sup>  $e^- \rightarrow$  Na
- **21.** Aqueous copper(II) sulfate is electrolysed using copper electrodes. The current is constant and the anode is weighed at regular time intervals.

Which graph is obtained when the mass of the anode is plotted against time?



**22.** Concentrated aqueous sodium chloride is electrolysed using inert electrodes. Which row shows what happens in this electrolysis and why it happens?

	change occurring	explanation
Α	oxygen is discharged at the anode.	OH⁻(aq) loses electrons more readily than C <i>l</i> ⁻(aq) does.
в	during electrolysis, the pH of the electrolyte increases.	the electrolysis in aqueous solution involves the discharge of H⁺(aq) ions.
с	solid sodium is discharged at the cathode.	Na⁺(aq) is present in aqueous solution.
D	The products stay the same if the aqueous sodium chloride is replaced by molten sodium chloride.	Na <sup>+</sup> and C <i>l</i> <sup>-</sup> are present in both molten and aqueous sodium chloride.

- 23. Which statement about electrolysis reactions is correct?
  - A Bromine is formed at the anode when molten lead(II) bromide is electrolysed.
  - **B** Positive ions are discharged at the positive electrode.
  - **C** Sodium is formed at the cathode when aqueous sodium chloride is electrolysed.
  - **D** Sulfur dioxide is formed as a gas when dilute sulfuric acid is electrolysed.

**24.** The apparatus shown is set up to plate a steel key with copper.



The key does not get coated with copper.

Which change needs to be made to plate the key?

- A Increase the concentration of the aqueous copper(II) sulfate.
- **B** Increase the voltage.
- **C** Replace the solution with dilute sulfuric acid.
- **D** Reverse the electrical connections.
- **25.** The diagram shows the electrolysis of a concentrated aqueous solution containing both copper(II) ions and sodium ions.



Which metal is deposited at the negative electrode and why?

	metal deposited	reason
Α	copper	copper is less reactive than sodium
В	copper	copper is more reactive than hydrogen
С	sodium	copper is less reactive than hydrogen
D	sodium	copper is more reactive than sodium

26. The diagram shows the apparatus used to electrolyse lead(II) bromide using inert electrodes.



Why does the lamp light up only when the lead(II) bromide is melted?

- A Bromine atoms in the lead(II) bromide are converted to ions when it is melted.
- **B** Electrons flow through the lead(II) bromide when it is melted.
- **C** The ions in lead(II) bromide are free to move only when the solid is melted.
- **D** There are no ions in solid lead(II) bromide.
- 27. The diagram shows the electrolysis of molten lead(II) bromide using inert electrodes.



What happens during this electrolysis?

- A Atoms change to ions.
- **B** Covalent bonds are broken.
- **C** lons change to atoms.
- **D** New compounds are formed.

**28.** Which pair of metals **X** and **Y** will produce the highest voltage when used as electrodes in a simple cell?



**29.** The diagram shows apparatus used to investigate the conductivity of different solutions.



Which substance, in aqueous solution of concentration 1 mol / dm<sup>3</sup>, would cause the lamp to give the brightest light?

**A** Ammonia

Α

В

С

D

C Ethanol

- B Ethanoic acid
- D Sulfuric acid
- 30. Which positive ions are present in aqueous copper(II) sulfate?
  - A Copper ions only
  - **B** Copper ions and hydrogen ions
  - C Sulfate ions only
  - **D** Sulfate ions and hydroxide ions

**31.** Which reactions take place during the electrolysis of aqueous copper(II) sulfate with copper electrodes?

	reaction at anode	reaction at cathode
Α	$Cu^{2+}$ + $2e^- \rightarrow Cu$	$Cu \rightarrow Cu^{2+}$ + $2e^-$
в	$4OH^{\scriptscriptstyle -} \rightarrow 2H_2O \ + \ O_2 \ + \ 4e^{\scriptscriptstyle -}$	$Cu^{2+}$ + $2e^- \rightarrow Cu$
С	$Cu \rightarrow Cu^{2+} + 2e^{-}$	$2H^{\scriptscriptstyle +}\ +\ 2e^{\scriptscriptstyle -}\ \rightarrow\ H_2$
D	$Cu \rightarrow Cu^{2+}$ + $2e^-$	$Cu^{2+}$ + $2e^- \rightarrow Cu$

- 32. Which statement about conduction of electricity is correct?
  - A Electricity is conducted in aqueous solution by electrons.
  - B Electricity is conducted in a metal wire by ions.
  - **C** Electricity is conducted in a molten electrolyte by electrons.
  - **D** Electricity is conducted in an acidic solution by ions.
- **33.** Aqueous copper(II) sulfate is electrolysed using copper electrodes.

Which equation represents the reaction taking place at the anode (positive electrode) in this electrolysis?

- $\textbf{A} \quad Cu(s) \ \rightarrow \ Cu^{2+}(aq) \ + \ 2e^{-}$
- $\textbf{B} \quad SO_4{}^{2\text{-}}(aq) \ \rightarrow \ SO_2(g) \ + \ O_2(g) \ + \ 2e^{-}$
- **C**  $Cu^{2+}(aq) + 2e^{-} \rightarrow Cu(s)$
- **D** 4OH<sup>-</sup>(aq)  $\rightarrow$  2H<sub>2</sub>O(l) + O<sub>2</sub>(g) + 4e<sup>-</sup>
- 34. Which substance conducts an electric current but remains chemically unchanged?
  - **A** Aluminium
  - B Aqueous sodium chloride
  - **C** Molten lead(II) bromide
  - D Pure ethanoic acid
- **35.** Which substance, when added to water, does **not** make a solution that is a good conductor of electricity?
  - A Barium nitrate
  - **B** Calcium chloride
  - C Lead(II) nitrate
  - D Zinc carbonate

36. The diagrams show an electrolysis experiment using inert electrodes.



before electrolysis

after electrolysis

Which could be liquid Y?

- A Aqueous copper(II) sulfate
- B Concentrated aqueous sodium chloride
- **C** Dilute sulfuric acid
- D Ethanol
- **37.** A simple cell is shown below.



Which statement about the process occurring when the cell is in operation is correct?

- **A** Cu<sup>2+</sup> ions are formed in solution.
- **B** Electrons travel through the solution.
- **C** The reaction  $Zn \rightarrow Zn^{2+} + 2e^{-}$  occurs.
- **D** The zinc electrode increases in mass.

38. In which circuit does the bulb light?









**39.** Graphite is often used as the electrodes in the electrolysis of solutions.



Which particles are involved in the conduction of electricity by graphite?

- A Electrons only.
- **B** Negative ions only.
- **C** Positive ions and electrons.
- **D** Positive ions and negative ions.

**40.** Concentrated aqueous sodium chloride is electrolysed using inert electrodes.



Which statement about this electrolysis is correct?

- A Chloride ions travel through the solution to the negative electrode.
- **B** Electrons travel through the solution to the sodium ions.
- **C** Gases are given off at both electrodes.
- **D** Sodium is formed at the negative electrode.
- 41. Which statement about electrolysis is correct?
  - A Sodium is produced at the cathode during the electrolysis of concentrated aqueous sodium chloride using graphite electrodes.
  - **B** Chlorine gas is produced at the anode during the electrolysis of dilute hydrochloric acid using graphite electrodes.
  - **C** Copper is oxidised at the anode during the electrolysis of aqueous copper(II) sulfate using copper electrodes.
  - **D** Hydrogen gas is produced the anode during the electrolysis of dilute sulfuric acid using graphite electrodes.
- 42. Which statement about ionic compounds is correct?
  - A lonic compounds conduct electricity when solid because they contain charged particles that can move.
  - B Ionic compounds consist of a lattice of positive ions and negative ions.
  - **C** Most ionic compounds are solids at room temperature because of the strong attraction between electrons and positive ions.
  - **D** When molten or in aqueous solution, ionic compounds conduct electricity because they contain electrons that can move.

**43.** Concentrated aqueous calcium iodide undergoes electrolysis in a similar way to concentrated aqueous sodium chloride.



What would be formed at each electrode?

	product at positive electrode	product at negative electrode
Α	iodine	calcium
В	iodine	hydrogen
С	oxygen	calcium
D	oxygen	hydrogen

**44.** Caesium, Cs, is in the same group of the Periodic Table as sodium. Which products are obtained from the electrolysis of concentrated aqueous caesium chloride?

	product at negative electrode	solution remaining
Α	caesium	hydrochloric acid
В	chlorine	caesium hydroxide
С	hydrogen	caesium hydroxide
D	hydrogen	hydrochloric acid

- 45. Which statement about the purification of copper by electrolysis is correct?
  - **A** A pure copper anode is used.
  - **B** A pure copper cathode is used.
  - **C** The colour of the electrolyte fades throughout the process.
  - **D** The electrolyte used is a solution of copper oxide in water.

**46.** Aluminium is obtained by the electrolysis of molten aluminium oxide.



Which row shows the electrode at which aluminium is formed and the correct equation for its formation?

	electrode	equation
Α	anode	$Al^{3+}$ + $3e^- \rightarrow Al$
В	anode	$Al^{3+} - 3e^- \rightarrow Al$
С	cathode	$Al^{3+}$ + $3e^- \rightarrow Al$
D	cathode	$Al^{3+} - 3e^- \rightarrow Al$

**47.** The diagrams show the apparatus for the electrolysis of aqueous copper(II) sulfate. In experiment X both electrodes are inert. In experiment Y both electrodes are made of copper.



48. Which metal is most likely to be extracted from its molten chloride by the use of electrolysis?

Α	Calcium	В	Copper	C Iron	D Silver
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**49.** A simple cell can be made using two different metals as the electrodes and an aqueous solution as the electrolyte.

Which statements about simple cells are correct?

- 1 A greater voltage is produced using magnesium and silver than using magnesium and copper.
- 2 The electrolyte is an aqueous solution containing both positive and negative ions.
- 3 The more reactive metal will release electrons.
- **A** 1, 2 and 3 **B** 1 and 3 only **C** 1 only **D** 2 and 3 only
- **50.** Magnesium can be produced by electrolysis of molten magnesium chloride, MgC*l*<sub>2</sub>. What are the equations for the reactions that occur at the positive electrode and at the negative electrode?

	positive electrode	negative electrode
Α	$2Cl^{-} \rightarrow Cl_2 + 2e^{-}$	$2H^{\scriptscriptstyle +}\ +\ 2e^{\scriptscriptstyle -}\ \rightarrow\ H_2$
В	$Cl_2$ + $2e^- \rightarrow 2Cl^-$	$\mathrm{Mg}^{2+}$ + 2e <sup>-</sup> $ ightarrow$ Mg
С	$2Cl^- \rightarrow Cl_2 + 2e^-$	$\mathrm{Mg}^{2+}$ + 2e <sup>-</sup> $ ightarrow$ Mg
D	$2Cl^{-} \rightarrow Cl_2$ + $2e^{-}$	$\mathrm{Mg}^{2+}$ + 2e <sup>-</sup> $ ightarrow$ 2Mg

**51.** The diagram shows apparatus that can be used to extract aluminium from its ore.



What are J, K and L?

	J	К	L
Α	negative electrode	aluminium oxide + cryolite	aluminium
В	negative electrode	cryolite	aluminium oxide
С	positive electrode	aluminium oxide	cryolite
D	positive electrode	aluminium oxide + cryolite	aluminium

- **52.** Four processes using electrolysis are listed.
  - 1 The electrolysis of concentrated aqueous sodium chloride.
  - 2 The electrolysis of dilute sulfuric acid.
  - 3 The extraction of aluminium from pure aluminium oxide.
  - 4 The purification of copper using aqueous copper(II) sulfate.

Which processes produce oxygen at one of the electrodes?

- **A** 1 and 2 **B** 2 and 3 **C** 2 and 4 **D** 3 and 4
- 53. Which negative ions are present in aqueous copper(II) sulfate?
  - A Copper(II) ions and hydrogen ions.
  - **B** Copper(II) ions only.
  - **C** Sulfate ions and hydroxide ions.
  - **D** Sulfate ions only.
- **54.** When concentrated aqueous sodium chloride is electrolysed using inert electrodes, which product is formed at the cathode and which product is formed at the anode?

	cathode product	anode product
Α	hydrogen	chlorine
В	hydrogen	oxygen
С	sodium	chlorine
D	sodium	oxygen

55. The diagram shows the apparatus for an electrolysis experiment.



Using the apparatus shown, which electrolyte would give colourless gases at both electrodes?

- A Aqueous copper(II) sulfate.
- **B** Concentrated aqueous sodium chloride.
- **C** Dilute sulfuric acid.
- **D** Molten lead bromide.

**56.** Which arrangement is used to electroplate copper onto a steel key?

	electrolyte	anode (positive electrode)	cathode (negative electrode)
Α	aqueous copper(II) sulfate	piece of pure copper	steel key
В	aqueous copper(II) sulfate	steel key	piece of pure copper
С	dilute sulfuric acid	piece of pure copper	steel key
D	dilute sulfuric acid	steel key	piece of pure copper

**57.** Pieces of zinc are added to aqueous copper(II) sulfate.

 $Cu^{2+}(aq) \ + \ Zn(s) \ \rightarrow \ Zn^{2+}(aq) \ + \ Cu(s)$ 

Which statement is correct?

- **A**  $Cu^{2+}(aq)$  is oxidised to Cu(s) by gaining electrons.
- **B**  $Cu^{2+}(aq)$  is reduced to Cu(s) by losing electrons.
- **C** Zn(s) is oxidised to  $Zn^{2+}(aq)$  by losing electrons.
- **D** Zn(s) is reduced to  $Zn^{2+}(aq)$  by gaining electrons.
- 58. The chloride of metal X is dissolved in water.

A concentrated solution of this chloride is electrolysed using inert electrodes.



X is above sodium in the reactivity series.

In addition to chlorine, which gas is liberated and at which electrode?

	gas	liberated at electrode
Α	hydrogen	anode
В	hydrogen	cathode
С	oxygen	anode
D	oxygen	cathode

**59.** The diagram shows the electrolysis of a mixture of aqueous copper(II) nitrate, Cu(NO<sub>3</sub>)<sub>2</sub>(aq), and aqueous silver nitrate, AgNO<sub>3</sub>(aq). Electrodes X and Y are inert.



Copper is above silver in the reactivity series.

It can be deduced that .....1..... is initially deposited at electrode .....2......

Which words correctly	complete gaps '	1 and 2?
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	1	2
Α	copper	Х
В	copper	Y
С	silver	Х
D	silver	Y

**60.** The diagram shows the electrolysis of concentrated and dilute aqueous sodium chloride using inert electrodes. Gases are produced and collected in each of the test-tubes W, X, Y and Z.



Which statements are correct?

- 1 Approximately equal volumes of gas are produced and collected in test tubes W and X.
- 2 Approximately equal volumes of gas are produced and collected in test tubes Y and Z.
- 3 Three different gases are produced in the experiment.
- **A** 1, 2 and 3 **B** 1 and 2 only **C** 2 and 3 only **D** 1 and 3 only

**61.** An aqueous mixture of copper(II) nitrate and silver nitrate is electrolysed with pure copper electrodes.

Which half-equation correctly describes the change occurring at the anode?

- **A**  $Cu \rightarrow Cu^{2+} + 2e^{-}$ **B**  $Cu^{2+} + 2e^{-} \rightarrow Cu$
- $\textbf{C} \quad \text{Ag} \ \rightarrow \ \text{Ag}^{\scriptscriptstyle +} \ \textbf{+} \ e^{\scriptscriptstyle -}$
- $\mathbf{D}$  Ag<sup>+</sup> + e<sup>-</sup>  $\rightarrow$  Ag
- **62.** Lead(II) bromide is electrolysed using inert electrodes.



Which statement is correct?

- **A** A brown gas is seen at the positive electrode.
- **B** Electrons pass through the solution from one electrode to the other.
- **C** lons pass through the circuit from one electrode to the other.
- **D** The lead(II) ions are oxidised.
- 63. Compound X is sodium iodide, NaI.

Compound Y is methyl methanoate, HCO<sub>2</sub>CH<sub>3</sub>.

At room temperature and pressure, .....1..... solid. In aqueous solution, .....2..... electricity. Which words correctly complete gaps 1 and 2?

	1	2
Α	both X and Y are	both X and Y conduct
В	both X and Y are	only X conducts
С	only X is	both X and Y conduct
D	only X is	only X conducts

**64.** Which pair of equations correctly represents the reactions taking place at the anode and at the cathode during the electrolysis of molten silver bromide?

	anode	cathode
Α	$2Br^{-} \rightarrow Br_2 + 2e^{-}$	$\mathrm{Ag}^{2+}$ + 2e <sup>-</sup> $ ightarrow$ Ag
В	$Br^{2-} \rightarrow Br_2$ + 2e <sup>-</sup>	$\mathrm{Ag^{+}}$ + $\mathrm{e^{-}}$ $ ightarrow$ Ag
С	$2Br^{-} \rightarrow Br_2 + 2e^{-}$	$\mathrm{Ag^{+}}$ + $\mathrm{e^{-}}$ $ ightarrow$ Ag
D	$Ag^{+} + e^{-} \rightarrow Ag$	$2Br^- \rightarrow Br_2 + 2e^-$

- **65.** Aqueous copper(II) sulfate is electrolysed using inert electrodes. Which statement is correct?
  - **A** Copper is collected at the anode.
  - **B** Hydrogen is collected at the cathode.
  - **C** Oxygen is collected at the anode.
  - **D** Sulfur is collected at the cathode.
- **66.** Concentrated aqueous sodium chloride is electrolysed using inert electrodes. Which equation shows the reaction that occurs at the anode?

Α	$2Cl^{-} \rightarrow Cl_2$ + $2e^{-}$	В	$2Cl^-$ + $2e^- \rightarrow Cl_2$
С	$2H^+$ + $2e^- \rightarrow H_2$	D	$4OH^{-} \rightarrow O_2 + 2H_2O + 4e^{-}$

**67.** The table gives some statements about electrolysis and the reason why each statement is true. Which row shows a correct statement and the correct reason why the statement is true?

	statement	reason
A	Aqueous copper(II) sulfate and aqueous copper(II) nitrate are suitable electrolytes when used to copper plate objects.	Both solutions contain Cu <sup>2+</sup> (aq) and can transfer copper from the anode to the cathode.
В	During the extraction of aluminium from aluminium oxide the carbon anodes have to be replaced regularly.	The anodes gradually dissolve in the molten cryolite.
С	In the electrolysis of concentrated aqueous sodium chloride and of dilute sulfuric acid the same products are formed.	H⁺(aq) is present in both aqueous solutions.
D	When an aqueous mixture of zinc nitrate and copper(II) sulfate is electrolysed, zinc is formed on the cathode.	Zinc is more reactive than copper.

**68.** Dilute aqueous solutions of potassium chloride and magnesium chloride are mixed together. A sample of the mixture is electrolysed using inert electrodes. What are possible products at each of the electrodes?

	anode	cathode
Α	chlorine	oxygen
В	chlorine	potassium
С	oxygen	hydrogen
D	oxygen	magnesium

69. Students proposed four cells to produce electricity in a school laboratory.Which cell would produce the largest voltage in a safe way?









• Scan the QR Code below to view the answers to this assignment.



http://www.chemist.sg/electro\_chem/electrochem\_mcq\_ans.pdf