

Summer holidays homework 2021

Week # 1

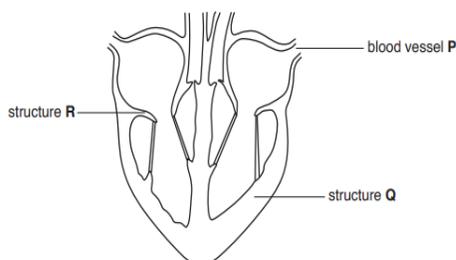
Class O-2

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Subject: Biology

1. The diagram shows the internal structure of a human heart viewed from the front and its associated blood vessels.



Name and describe the function of each of the following:

- a. Blood vessel P b. Structure Q c. structure R [3+3+4] (2019 S)

2. The nervous system coordinates body functions.

(a) (i) Name the type of coordinated response that takes place as a result of a specific stimulus, such as the withdrawal of the hand from a hot object touching the skin. [1]

(ii) Outline, in the correct sequence, the functions of each named type of neuron involved in producing this coordinated response.[7]

(b) Suggest why damage to a person's spinal cord may result in the person not being able to produce coordinated responses.[2]

3. a) Name and describe each process that must take place in order to remove molecules of carbon dioxide from the blood of a person to the air in the atmosphere.[7](b) Plants absorb carbon dioxide from the atmosphere. Outline how plants make the carbon in the molecules of carbon dioxide into a food substance.[3]

4. (a) Describe the causes and symptoms of each of the following: (2017 S)

- (i) rickets,[4] (ii) scurvy [4]

(b) Suggest why the alimentary canal does not produce any enzymes to work on vitamins. [2]

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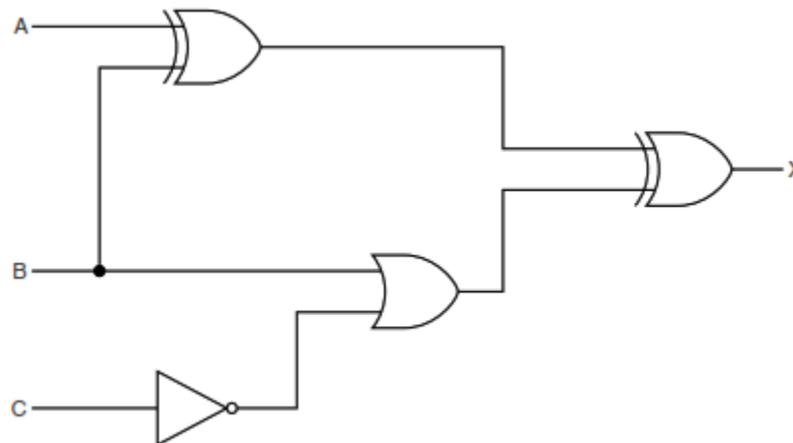
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2 Subject: CS

1 Complete the truth table for the following logic circuit:



A	B	C		X
0	0	0		
0	0	1		
0	1	0		
0	1	1		
1	0	0		
1	0	1		
1	1	0		

1	1	1		
---	---	---	--	--

2. Choose six correct terms from the following list to complete the spaces in the paragraphs below:
 • encryption • file name • firewall • HTML tags/text • IP address • protocol • proxy server • SSL certificate • web server name

A user enters a URL. The web browser breaks up the URL into three components:

- 1
- 2
- 3

The web server returns the selected web page.

The web browser reads the from the selected page and shows the correctly formatted page on the user's screen.

A is used between the user's computer and the network to examine the data traffic to make sure it meets certain criteria.

To speed up the access to the web pages next time, a is used between the computer and web server; this device uses a cache to store the website home page after it has been accessed for the first time.

3. Viruses, pharming and phishing are all examples of potential Internet security issues.

Explain what is meant by each of these three terms.

Virus

.....

.....

.....

Pharming

.....

.....
.....
Phishing

.....
.....
.....
.....
4. One of the key features of von Neumann computer architecture is the use of buses. Three buses and three descriptions are shown below. Draw a line to connect each bus to its correct description.

Bus	Description
address bus	this bus carries signals used to coordinate the computer's activities
control bus	this bi-directional bus is used to exchange data between processor, memory and input/output devices
data bus	this uni-directional bus carries signals relating to memory addresses between processor and memory

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Subject: Physics

Q: A boy moving with a water container in a wheelbarrow. The container has a volume of 0.15 m^3 and is filled with the water of density 1000 kg/m^3 .

- a. Calculate the mass of water in the container when it is full.
- b. It is harder to stop the wheelbarrow when the container is full than when it is empty.

Q: A car is brought to rest in 5s from a speed of 10 ms^{-1} . What is the average deceleration of the car?

Q: A cyclist travels along a straight, horizontal road.

- a. Describe how the average speed of the cyclist can be measured. Suggest what equipment is used, the measurements that are made and how the average speed is calculated.
- b. For part of the journey, the cyclist has a constant, negative acceleration. State what is meant by negative acceleration.
- c. The size of the acceleration is 1.8 ms^{-2} . Calculate the change in speed of the cyclist in a time of 2.5 s.

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Subject: Math

1. Raj buys 200 boxes of Fiji apples at \$ 28 per box. There are 60 apples in each box. 15% of the apples are rotten. Find the selling price per apple if he wants to earn an 80% profit on the cost price.
2. Mr. Neon paid an income tax of \$ 1474 for a particular year. Of his gross annual income, the amount that will not be subjected to income tax is shown in the table below;

Personal relief	\$3000
Wife relief	\$ 2000
Child relief	\$ 4000 per child
Parent relief	\$ 5000 per parent
CPF contribution	4 15600
Donation	\$200

Given that he lives with 4 children and 2 parents, and that for the remaining income that will be taxed, the gross tax payable for the first \$ 40, 000 is \$ 550 and the rate for the rest is 7%, find his gross annual income.

3. Wilson invests \$ 5000 at 5 per annum compound interest compounded annually. Find the amount at the end of the third year.

4. Nora invest \$ 800 that pays simple interest at a rate of 6% per annum and \$ 1200 that pas a simple interest at a rate of 7% per annum. What is her total annual interest on these two investments?

5. A computer system is priced at \$ 3200. A man buys the computer system on hire purchase according to the following term;

A down payment of 15% and the remaining to be paid in monthly instalments over 2 years at a simple interest rate of 9.5% per annum.

- (i) Find monthly instalment
- (ii) Find the total amount the man pas for the computer system.
- (iii) How much more does he have to pay for buying the computer system on hire purchase?

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Subject: English

Task 1: You have received a letter from a friend who has left your class to go to another school and wishes to hear news and information about:

1. A friend in the class.
2. Recent sports results
3. Unusual, difficult or comic happenings.

Write a letter to reply to your friend. Use continuous English and appropriate style. Make sure that you cover all the above points in detail.

(You are advised to spend 45 minutes on this part of your work. You should not write more than 300 words.)

Task 2: Read the Passage below in order to maintain a vocabulary journal and write content points.

One day I was with Emily in the park toughs confronted us. They grabbed hold of Emily and demanded my money. I was not much good in a fight so I took the safe way out: I took out my wallet and gave it to them. They laughed as they took it. Then suddenly, I heard a voice from behind me: He leapt at the toughs and I could see him punching them left and right. One tough fell and then got up and ran. The other tough ran after his friend. With a sarcastic grin, Al handed my wallet to me. I thanked him and turned to Emily. She just stood there and glared at me. Suddenly she shouted, "You coward."

I shuddered at her words.

(You are advised to spend 25 minutes on this part of your work.)

1. Vocabulary Journal:

words	definition/meaning

2. Content Points/ Notes:

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Subject: History

SOURCE A

Nawab Siraj-ud-Duala opposed the growing British power in Bengal in 1757. Robert Clive, commander of the British East India Company's troops that had just retaken Calcutta from the Nawab, began to re-establish control of Bengal. Clive was heavily outnumbered by the Nawab's forces, but persuaded Mir Jafar, the Nawab's commander, to switch sides and not fight when the two armies met. The Nawab opened the battle with heavy gunfire which went on until it started to rain heavily. Clive's troops covered their cannon and muskets to protect them from the rain, whilst the Nawab's troops did not. When the rain cleared, Clive attacked. The Nawab's troops retreated. 22 of Clive's soldiers were killed and 500 of the Nawab's soldiers were killed.

From Seven Years' War: Battle of Plassey by Kennedy Hickman



www.alamy.com - H9X6AN

Source B

Question 1

- According to source A, what reasons are suggested for the British victory at the battle of Plassey in 1757?
- What does source B tell about what happened at Plassey in 1757? [5]
- Why were the British able to take control of India by 1850?
- Was the introduction of the 'Doctrine of Lapse' in 1852 the most important reason for the War of Independence in 1857? Explain your answer. [10]

Question 2

- Who was Ranjit Singh? [4]
- Explain the appeal of India to the East India Company during the early seventeenth century. [7]
- Why were the British interested in Sindh and the attack on it was considered as a 'shameful British act'? [14]

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Subject: Geography

Question 1

(a) Study the map Fig. 5.

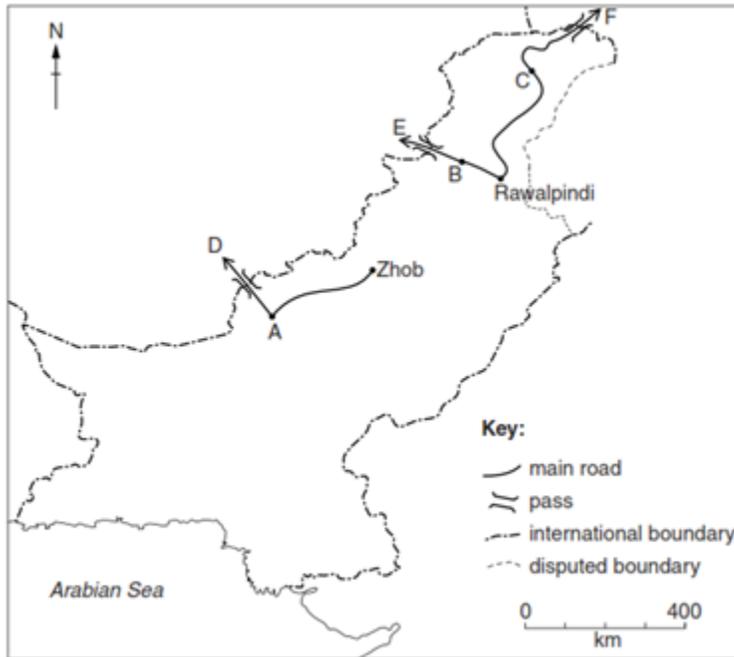


Fig. 5

- (a)
- (i) Name the towns A, B and C [3]
 - (ii) Name the passes D, E and F [3]
 - (iii) Name countries that they links to Pakistan. [2]
- (b)
- (i) Name the mountain ranges in the Basin of Western Balochistan. [4]
 - (ii) Name the Salt lakes in the Basin of Western Balochistan. [2]
- (c) What is the economic wealth of Balochistan? [6]
- (d) Describe the economic activity and lifestyle in Potwar Plateau. [5]

Total [25]

Question 2

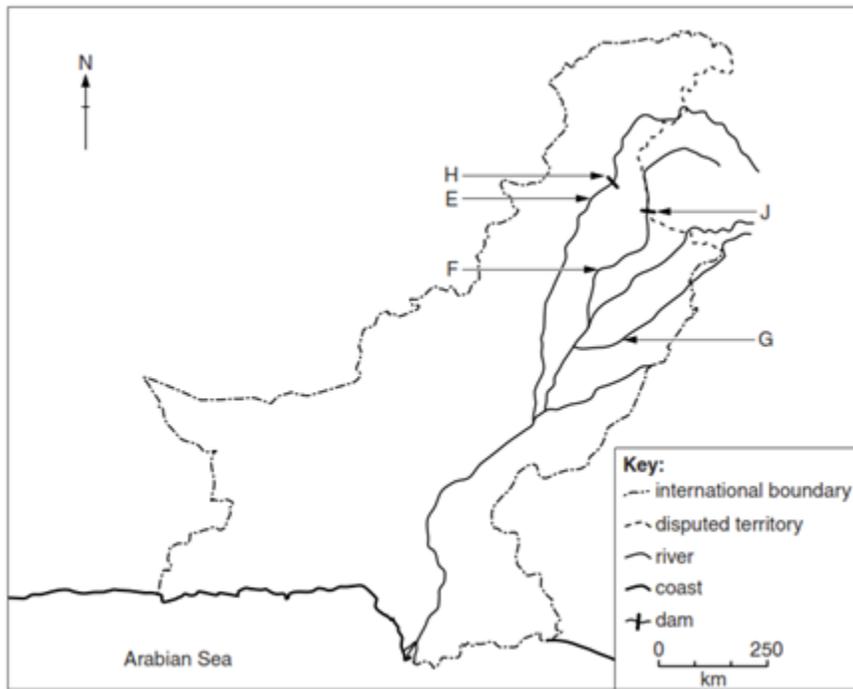


Fig. 1

- (a)
- (i) Name the rivers [3]
 - (ii) Name the dams [2]
 - (iii) Shade the Upper Indus plain on the map. [2]
 - (iv) Name and label three deserts on the map. [6]
- (b)
- (i) Explain the Active Flood Plain. [3]
 - (ii) Explain the Old Flood Plain. [3]
- (c) Describe the economic Activities in the Indus Plain. [6]

Total [25]

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Subject: RS

Question 1

- Forty days after Jesus' resurrection, Jesus was taken up from their sight.
 - What did Jesus say in answer to the disciples' question concerning restoring the Kingdom of Israel, **and**
 - what did the two men dressed in white say immediately after Jesus had been taken up? [6]
- Explain how the final words of Jesus to his disciples in the Acts of the Apostles were fulfilled. [6]
- 'The 'Acts of the Holy Spirit' is a more accurate title for the Acts of the Apostles.' To what extent do you agree? Show in your answer that you have considered more than one point of view. [8]

Question 2

- Give an account of the Temptation of Jesus by the devil. [6]
- Explain what these temptations teaches us about
 - Person of Jesus, **and**
 - Persistence of devil. [6]
- 'Repent, for the kingdom of heaven is near.' To what extent do you agree? Show in your answer that you have considered more than one point of view. [8]

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Subject: Islamiyat

Instructions: All written work to be done on loose sheets. It should be presented well with the Title mentioned on the First page. Name of the student, class, admission no should also be clearly mentioned

1. Passages from Quran

Learn AYAT-ul-KURSI by heart (The Arabic and its English translation should be learnt thoroughly)

2. Learn Hadis NO 1 by heart and explain in your own words how can a Muslim show sincerity towards his religion?(Islam)

3. Explain in your own words the Importance of Holy Prophet as the last messenger of Allah (in a muslim's life)

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Subject: Urdu 1st Lang

خوشخطی کو ملحوظ خاطر رکھیں
5 نمبر خوشخطی کے مخصوص ہیں

سوال نمبر 1- مرزا ادیب اپنی تحریروں میں قاری کی اصلاح و احوال کا ذمہ لیتے ہیں۔ ان کے ڈرامہ دستک کو مد نظر رکھتے ہوئے اپنا جواب تحریر کریں۔
سوال نمبر 2 اقبال نے نظم طلوع اسلام میں مرد مومن کی جو خوبیاں بیان کی ہیں اپنے الفاظ میں قلمبند کریں۔

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Subject: Urdu 2nd Lang

ہدایات :

- ۱۔ کام کرنے وقت خوش خطی کو مدنظر رکھیں۔
- ۲۔ کام لوز شیٹ پر کیا جائے۔
- ۳۔ ہر صفحے پر نام اور داخلہ نمبر تحریر ہونا چاہیے

سوال نمبر ۱۔ کم عمری میں کار چلانے کے نتائج پر باپ بیٹے کے درمیان مکالمہ لکھیں۔

سوال نمبر ۲۔ اپنے چھوٹے بھائی کو ایک خط کے ذریعے اسکول یونیفارم اور نظم و ضبط کی اہمیت سے آگاہ کریں۔

سوال نمبر ۳۔ مندرجہ ذیل باتوں کو مد نظر رکھتے ہوئے ”سڑکوں پر حادثات کی وجوہات“ پر مضمون قلمبند کریں

حادثات کیوں ہوتے ہیں؟

آپ اپنے علاقے کی سڑکوں کے بارے میں کیا کہیں گے؟
حادثات کی روک تھام کے لیے کیا کرنا چاہیے؟

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Subject: Chemistry

Chemistry

(Q1)

Which products are formed at the anode and cathode when electricity is passed through molten lead(II) bromide?

	anode (+)	cathode (-)
A	bromide ions	lead ions
B	bromine molecules	lead atoms
C	lead atoms	bromine molecules
D	lead ions	bromide ions

(Q2)

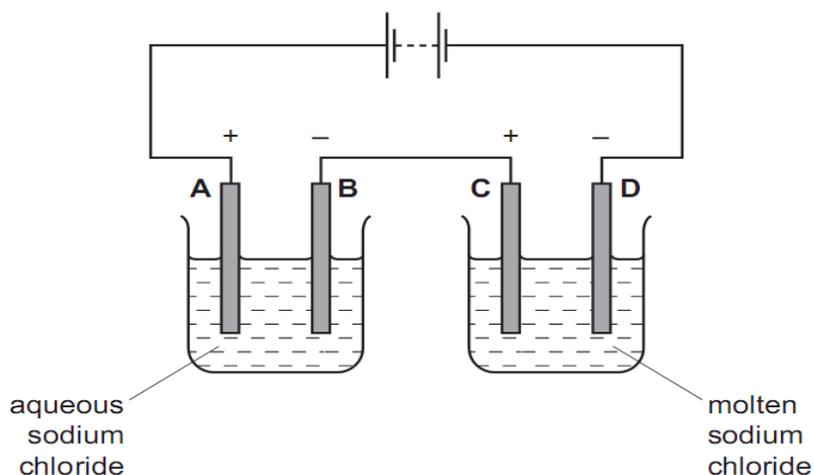
What will be produced at the anode and at the cathode, if molten potassium chloride is electrolysed?

	anode (+)	cathode (-)
A	chlorine	hydrogen
B	chlorine	potassium
C	hydrogen	chlorine
D	potassium	chlorine

(Q3)

The diagram shows an electrolysis circuit.

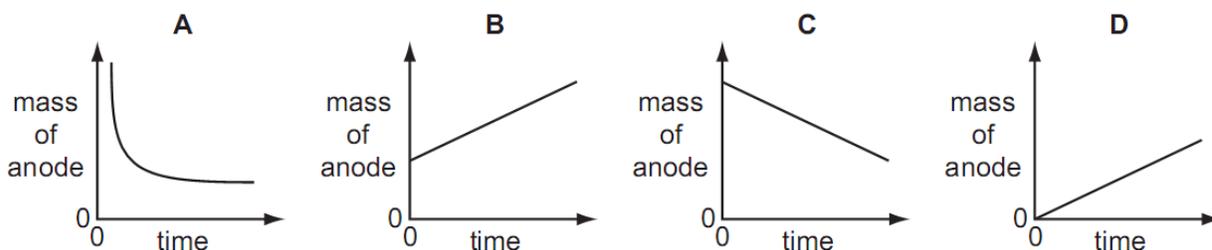
At which electrode is hydrogen formed?



(Q4)

Aqueous copper(II) sulfate is electrolysed using copper electrodes. The current is constant and the anode (positive electrode) is weighed at regular intervals.

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



(Q5)

In the extraction of aluminium by electrolysis, its oxide is dissolved in molten cryolite. Cryolite is a sodium salt.

Aluminium is deposited at the1..... and it can be deduced that aluminium is2..... sodium in the reactivity series.

Which words correctly complete gaps 1 and 2?

	1	2
A	+ve electrode	above
B	+ve electrode	below
C	-ve electrode	above
D	-ve electrode	below

(Q6)

A concentrated aqueous solution of sodium chloride is electrolysed.

What are the equations for the reactions taking place at the cathode (negative electrode) and the anode (positive electrode)?

	cathode (-ve)	anode (+ve)
A	$2\text{H}^+ + 2\text{e}^- \rightarrow \text{H}_2$	$2\text{Cl}^- \rightarrow \text{Cl}_2 + 2\text{e}^-$
B	$2\text{H}^+ + 2\text{e}^- \rightarrow \text{H}_2$	$4\text{OH}^- \rightarrow \text{O}_2 + 2\text{H}_2\text{O} + 4\text{e}^-$
C	$\text{Na}^+ + \text{e}^- \rightarrow \text{Na}$	$2\text{Cl}^- \rightarrow \text{Cl}_2 + 2\text{e}^-$
D	$\text{Na}^+ + \text{e}^- \rightarrow \text{Na}$	$4\text{OH}^- \rightarrow \text{O}_2 + 2\text{H}_2\text{O} + 4\text{e}^-$

(Q7)

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.

(Q8)

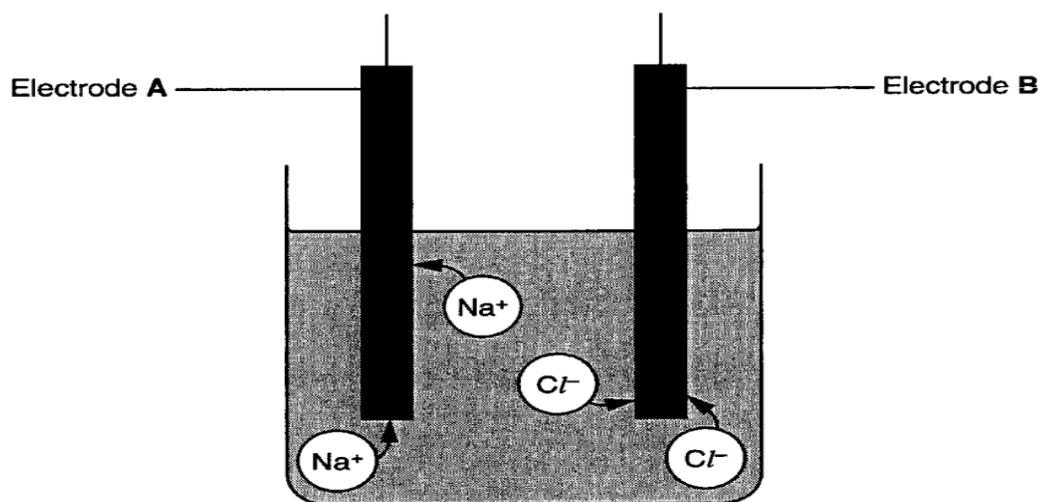
A concentrated aqueous solution of copper(II) chloride is electrolysed using inert electrodes.

What is the product at the positive electrode?

- A** chlorine
- B** copper
- C** hydrogen
- D** oxygen

(Q9)

The diagram shows the movement of the ions Na^+ and Cl^- during the electrolysis of molten sodium chloride.



(a) Which electrode, A or B, is the positive electrode? Explain your choice.

.....
.....[2]

(b) Which ion is attracted to the cathode?

.....[1]

(c) Name the two elements formed by the electrolysis of molten sodium chloride.

1.
2.[2]

(d) Give **one** expected observation during this electrolysis.

.....[1]

(Q10)

Only liquids that contain moving ions can be electrolysed. These liquids are called electrolytes.

(a) Complete the following table which shows the products formed when some liquids are electrolysed using inert graphite electrodes.

electrolyte	ions present in electrolyte	product formed at the positive electrode	product formed at the negative electrode
aqueous copper(II) sulfate	Cu^{2+} , H^+ , OH^- and SO_4^{2-}
concentrated aqueous sodium chloride	H^+ , Na^+ , Cl^- and OH^-	chlorine	hydrogen
molten lead(II) bromide	Pb^{2+} and Br^-

[3]

(b) When concentrated aqueous sodium chloride is electrolysed, chlorine is formed at the positive electrode (anode) and hydrogen at the negative electrode (cathode).

(i) Construct the ionic equation to show the formation of chlorine at the positive electrode.

.....[1]

(ii) Explain why hydrogen is formed at the negative electrode rather than sodium.

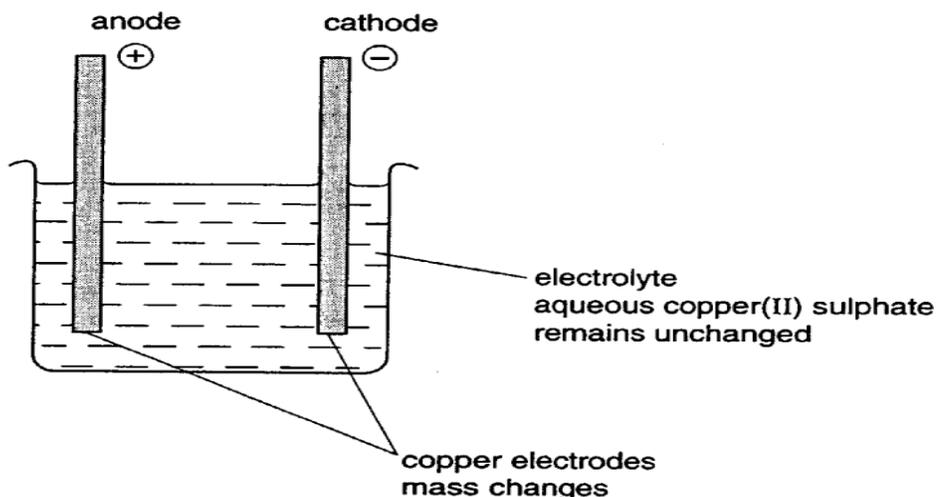
.....
.....[1]

(c) Name a metal manufactured by the electrolysis of a molten ionic compound.

.....[1]

(Q11)

Copper is refined by electrolysis.



Explain with equations why the electrodes change in mass and why the concentration of aqueous copper(II) sulphate remains unchanged. **Fig. 1**

.....
.....
.....
.....[4]