

Section A**Bahagian A**

[60 marks]

[60 markah]

Answer **all** questions in this section.*Jawab semua soalan dalam bahagian ini.*

- 1** (a) Jadual 1 menunjukkan bilangan proton dan neutron bagi atom Q dan X. Huruf yang digunakan bukan simbol sebenar bagi unsur tersebut.

Table 1 shows the number of protons and neutrons for the atom of elements Q and X. The letters used are not the actual symbols of the elements.

<i>Unsur Element</i>	<i>Bilangan proton Number of protons</i>	<i>Bilangan neutron Number of neutrons</i>
Q	11	12
X	17	18

Jadual/Table 1

- (i) Apakah nombor nukleon bagi atom Q?

What is the nucleon number for atom Q?

.....

[1 markah / mark]

- (ii) Tulis susunan elektron bagi atom Q.

Write the electron arrangement of atom Q.

.....

. [1 markah / mark]

- (iii) Lukis susunan elektron bagi ion Q.

Draw the electron arrangement of ion Q.

[1 markah / mark]

- (b) Atom Z ialah isotop bagi atom X.
Atom Z is an isotope of atom X.

- (i) Nyatakan bilangan proton dalam atom Z.
State the number of proton in an atom Z.

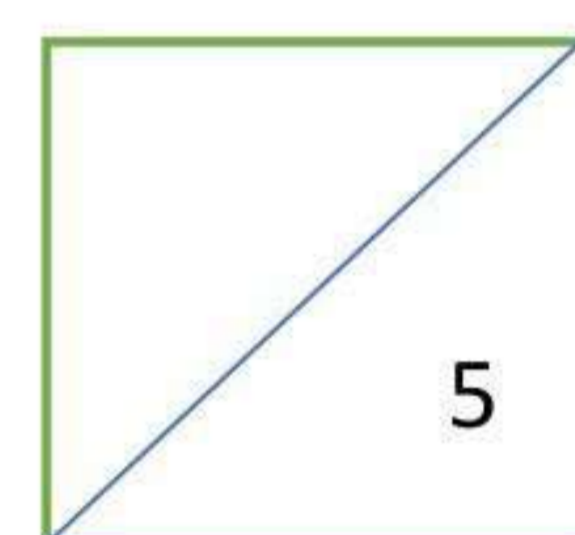
.....

[1 markah / mark]

- (ii) Mengapakah atom X dan Z mempunyai sifat kimia yang sama?
Why atom X and Z have same chemical properties?.

.....

[1 markah / mark]



- 2 (a) Rajah 2.1 menunjukkan suatu peralatan yang diperbuat daripada sejenis aloi.
Diagram 2.1 shows an equipment made of a kind of alloy.



Rajah 2.1 / Diagram 2.1

- (i) Nyatakan maksud aloi.
State the meaning of alloy.
.....
[1 markah / mark]
- (ii) Namakan aloi bagi peralatan dalam Rajah 2.1.
Name the alloy for the equipment in Diagram 2.1.
.....
[1 markah / mark]
- (iii) Nyatakan dua unsur yang menghasilkan aloi bagi jawapan anda di a(ii).
State the two elements that produce the alloy for your answer in a(ii).
.....
[1 markah / mark]

- (b) Rajah 2.2 menunjukkan tanah liat putih yang digunakan untuk membuat tembikar berwarna putih.
Diagram 2.2 shows a white clay used to make white pottery.

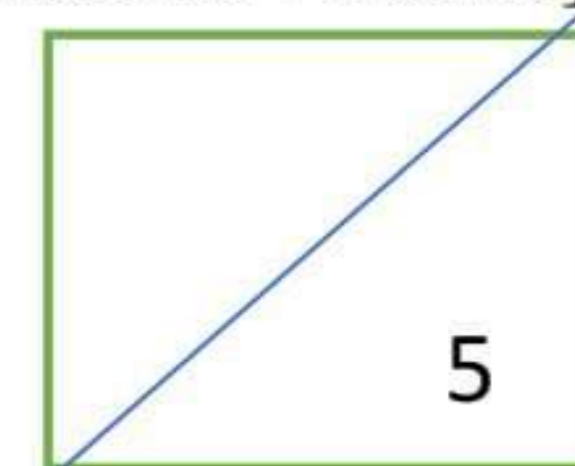


Rajah 2.2 / Diagram 2.2

Bagaimanakah anda hendak menghasilkan sejenis tembikar berwarna hijau?
How do you want to produce a green-coloured pottery?

.....
.....

[2 markah / marks]



SULIT

3 Jadual 3 menunjukkan maklumat unsur dalam Jadual Berkala Unsur.

Table 3 shows the information of elements in Periodic Table of Elements.

Unsur <i>Element</i>	Na	Mg	Al	Si	P	S	Cl
Susunan elektron <i>Electron arrangement</i>	2.8.1	2.8.2	2.8.3	2.8.4	2.8.5	2.8.6	2.8.7
Jejari atom (nm) <i>Atomic radius (nm)</i>	186	160	143	118	110	104	100

Jadual 3 / Table 3

(a) Kala yang manakah unsur itu terletak?

Which period are the elements placed?

.....

[1 markah / mark]

(b) Nyatakan unsur yang wujud sebagai molekul dwiatom.

State the element that exists as diatomic molecule.

.....

[1 markah / mark]

(c) Natrium terbakar dalam oksigen membentuk natrium oksida.

Sodium burns in oxygen to form sodium oxide.

Tulis persamaan kimia bagi tindak balas itu.

Write the chemical equation for the reaction.

.....

[2 markah / marks]

(d) Merujuk kepada perubahan jejari atom, terangkan mengapa keelektronegatifan bertambah merentasi kala dari kiri ke kanan.

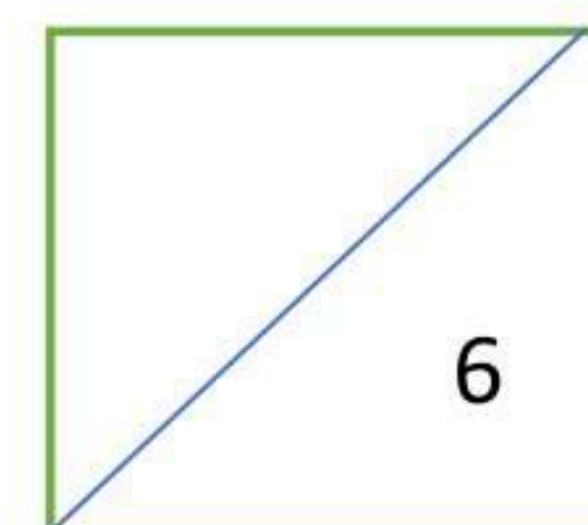
Referring to the change in atomic radius, explain why the electronegativity increases across the period from left to right.

.....

.....

.....

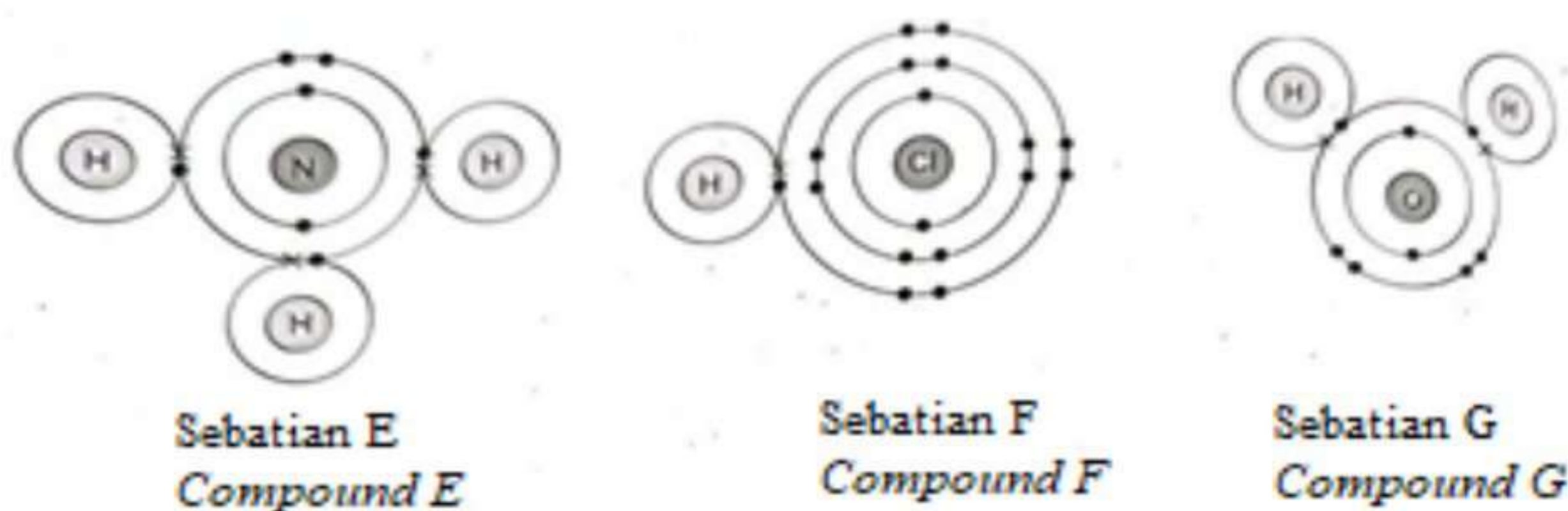
[2 markah / marks]



SULIT

4 Rajah 4.1 menunjukkan tiga rajah susunan elektron bagi sebatian E, F dan G.

Diagram 4.1 shows three diagrams of electron arrangement for compounds E, F and G.



Rajah 4.1 / Diagram 4.1

(a) Nyatakan jenis sebatian E.
State the type of compound for compound E.

.....

[1 markah / mark]

(b) Sebatian F dan G masing masing boleh bertindak balas dengan sebatian E. Nyatakan nama ikatan antara
Compound F and compound G can react with compound E respectively. State the name of the new bond formed between:

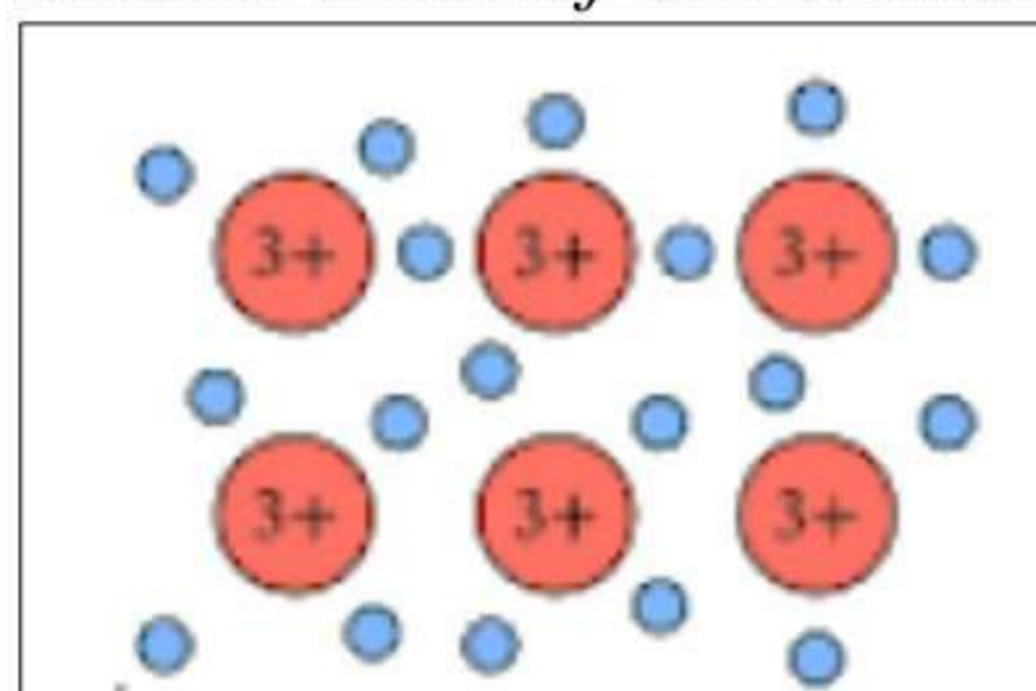
(i) Sebatian E dan sebatian F
Compound E and compound F :

(ii) Sebatian E dan sebatian G
Compound E and compound G :

[2 markah / marks]

(c) Rajah 4.2 menunjukkan pembentukan ikatan logam aluminium.

Diagram 4.2 shows formation of metallic bond of aluminium.

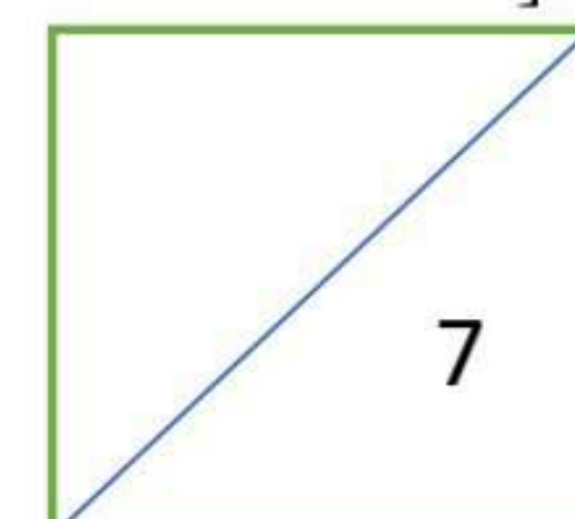


Rajah 4.2 /Diagram 4.2

Jelaskan bagaimana pembentukan ikatan logam aluminium berlaku.
Explain how the formation of metal bonds of aluminium occurs.

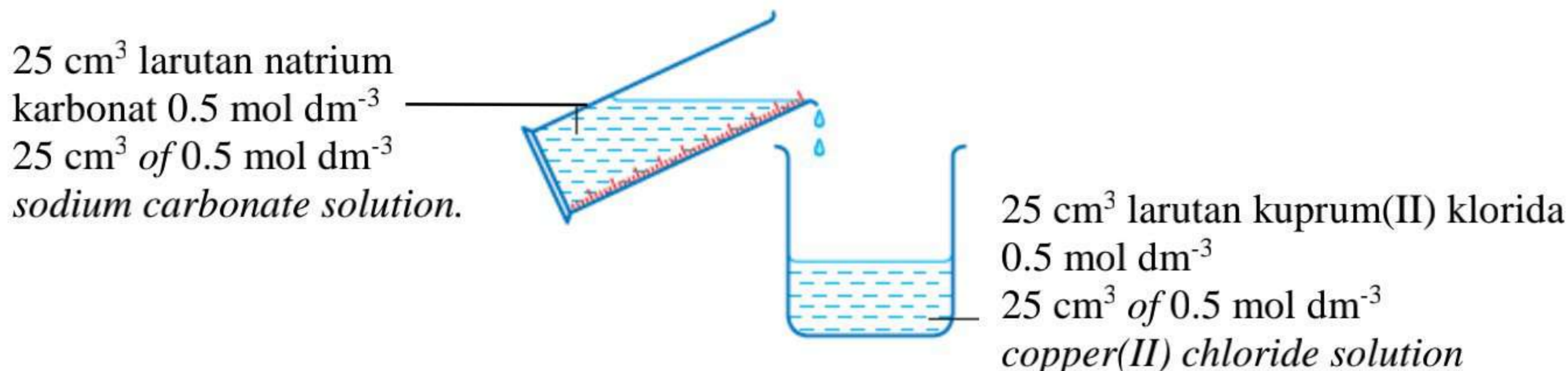
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[4 markah / marks]



- 5 (a) Rajah 5.1 menunjukkan satu susunan radas untuk menyediakan garam tak terlarutkan antara larutan kuprum(II) klorida dan larutan natrium karbonat.

Diagram 5.1 shows an apparatus set-up to prepare an insoluble salt between copper(II) chloride solution and sodium carbonate solution.



Rajah 5.1 /Diagram 5.1

- (i) Nyatakan maksud garam.

State the meaning of salt.

.....
.....

[1 markah / mark]

- (ii) Tulis persamaan kimia bagi tindak balas itu.

Write the chemical equation for the reaction.

.....

[1 markah / mark]

- (iii) Hitung jisim mendakan yang terbentuk.

[Jisim atom relatif: Cu = 64 ; C = 12 ; O = 16]

Calculate the mass of precipitate formed.

[Relative atomic mass: Cu = 64 ; C = 12 ; O = 16]

[3 markah / marks]

- (iv) Eksperimen itu diulangi dengan menggantikan larutan natrium karbonat dengan larutan P. Didapati garam tak terlarutkan yang dihasilkan adalah sama. Kenal pasti larutan P.

The experiment is repeated by replacing sodium carbonate solution with solution P .

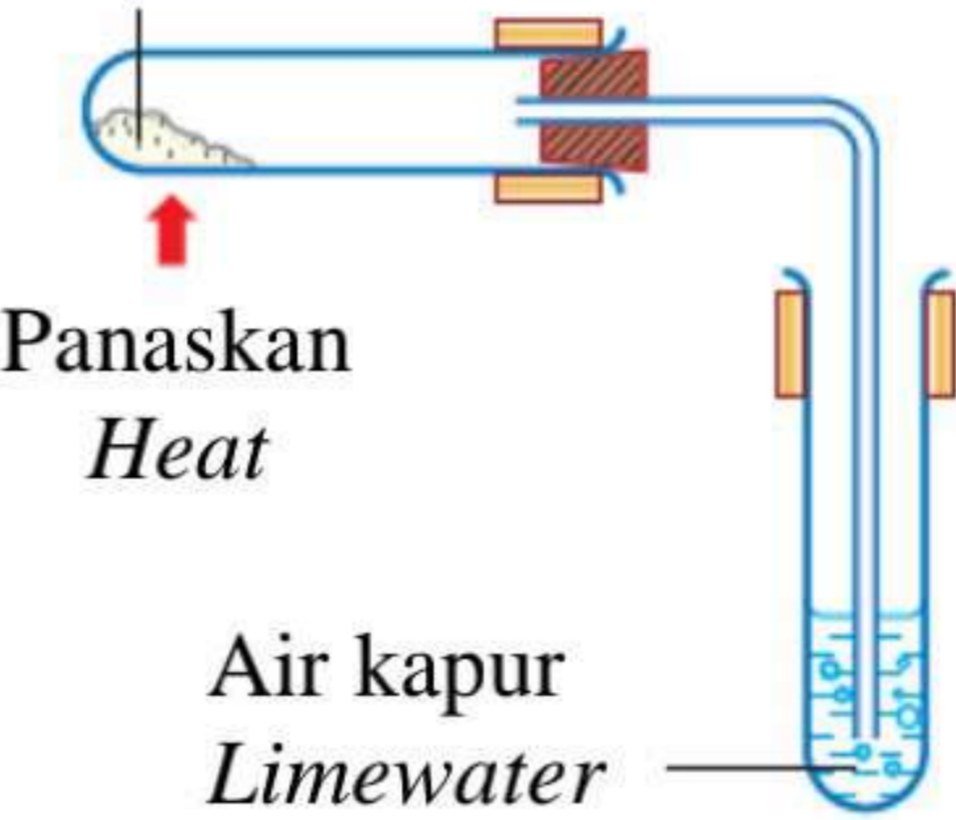
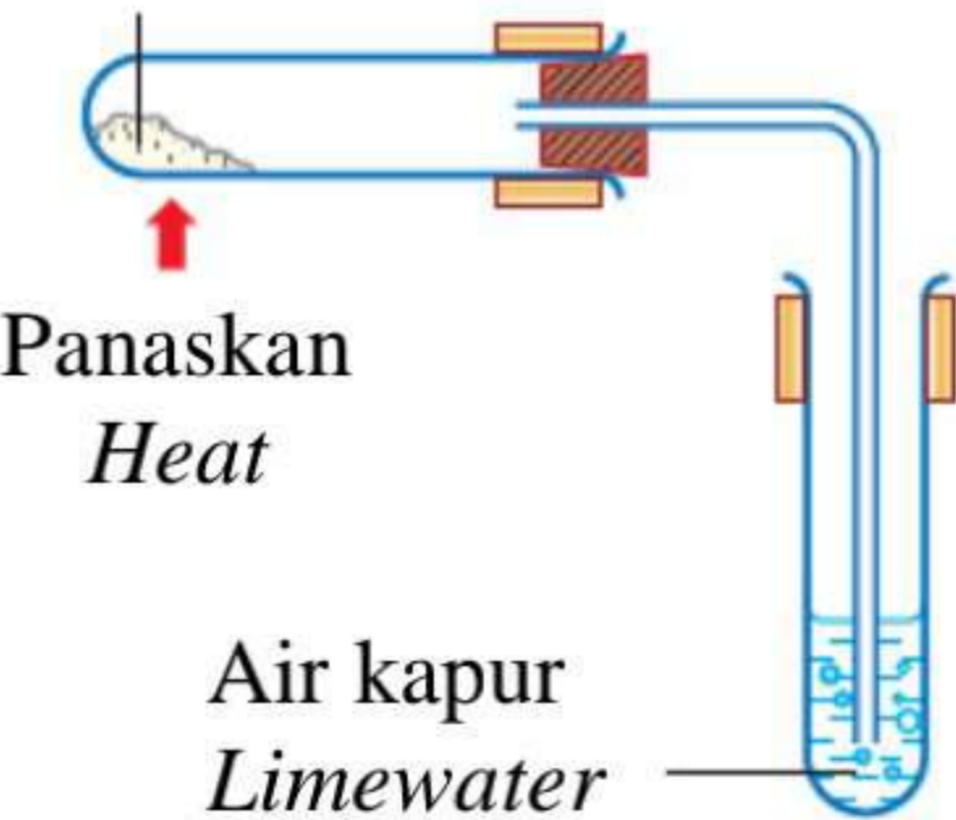
It was found that the insoluble salt formed are the same. Identify solution P

.....

[1 markah / mark]

- (b) Rajah 5.2 menunjukkan susunan radas yang digunakan dalam eksperimen untuk mengkaji tindakan haba ke atas garam karbonat.

Diagram 5.2 shows the apparatus used in experiment to study the action of heat on carbonate salts.

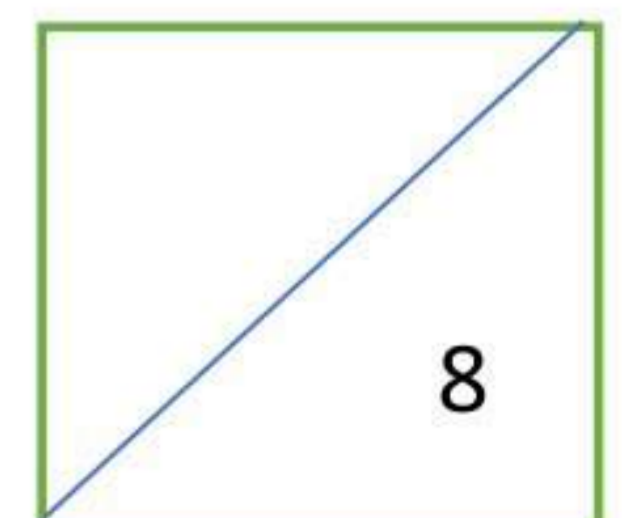
Eksperimen <i>Experiment</i>	Susunan radas <i>Apparatus set-up</i>	Pemerhatian <i>Observation</i>
I	<p>Magnesium karbonat <i>Magnesium carbonate</i></p>  <p>Panaskan <i>Heat</i></p> <p>Air kapur <i>Limewater</i></p>	<p>Air kapur menjadi keruh <i>Limewater turns cloudy</i></p>
II	<p>Natrium karbonat <i>Sodium carbonate</i></p>  <p>Panaskan <i>Heat</i></p> <p>Air kapur <i>Limewater</i></p>	<p>Tiada perubahan <i>No change</i></p>

Rajah 5.2 /Diagram 5.2

Terangkan perbezaan bagi pemerhatian antara eksperimen I dengan eksperimen II.
Explain the difference in the observation between experiment I and experiment II.

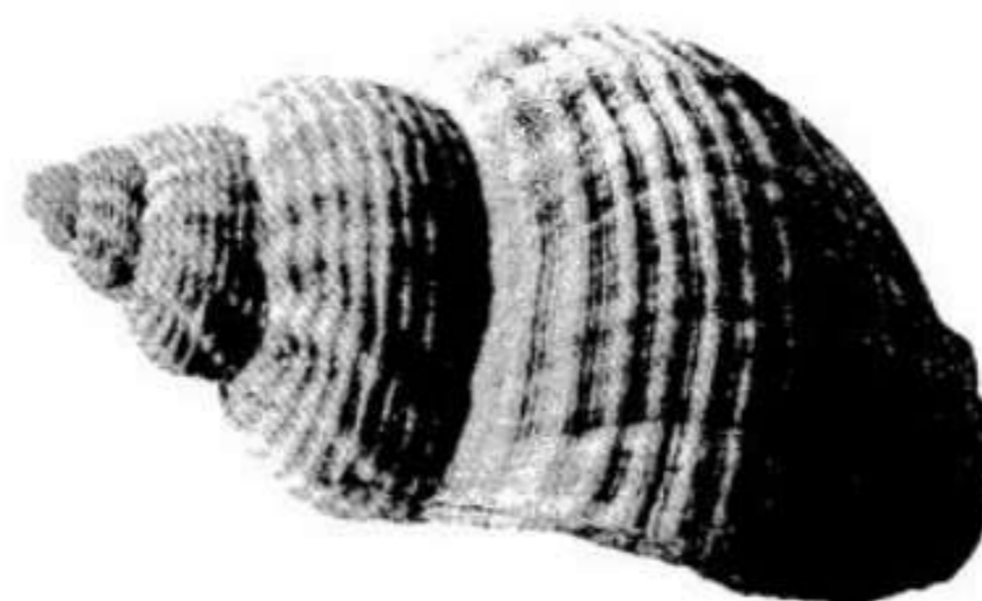
.....
.....

[2 markah / marks]



6 Rajah 6.1 menunjukkan cengkerang. Cengkerang terbina daripada sejenis garam.

Diagram 6.1 shows a shell. Shells are made from the type of salt.



Rajah 6.1 / Diagram 6.1

- (a) Salma memecahkan cengkerang ini kepada kepingan kecil. Kemudian dia memasukkan kepingan cengkerang yang kecil ini ke dalam tabung uji dan menambahkan 50 cm^3 asid hidroklorik 1.0 mol dm^{-3} . Gas T terbebas.

Salma crash the shells into small pieces. Then, she put the pieces of shells into a test tube and 50 cm^3 of 1.0 mol dm^{-3} hydrochloric acid is added. Gas T released.

- (i) Nyatakan nama gas T.

State the name of gas T.

.....

[1 markah / mark]

- (ii) Tuliskan persamaan kimia yang terlibat dalam tindak balas ini.

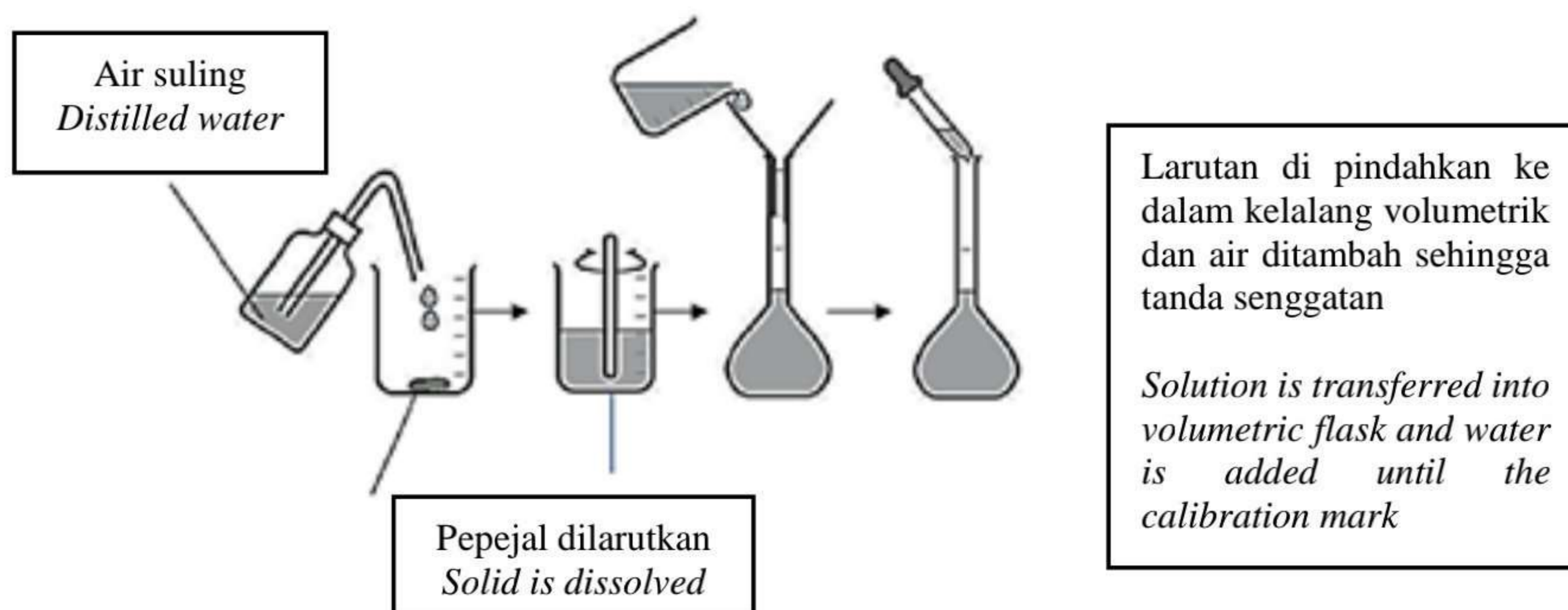
Write the chemical equation involve in this reaction.

.....

[2 markah/ marks]

- (b) Munirah menggunakan hablur asid oksalik terhidrat, $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$ untuk menyediakan larutan piawai berasid seperti yang ditunjukkan dalam Rajah 6.2.

Munirah uses hydrated oxalic acid crystals, $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$ to prepare 250 cm^3 of an acidic standard solution as shown in Diagram 6.2.



Rajah 6.2 / Diagram 6.2

- (i) Apakah yang dimaksudkan dengan larutan piawai?

What is meant by a standard solution?

.....

[1 markah/ mark]

- (ii) Hitung jisim hablur oksalik terhidrat, $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$ yang perlu dilarutkan dengan 500 cm^3 air suling untuk menghasilkan larutan piawai berasid dengan kemolaran 1.5 mol dm^{-3} . [Jisim atom relatif: C=12, H=1, O=16].

Calculate the mass of hydrated oxalic acid, $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$ crystals that needed to be dissolved in 500 cm^3 of distilled water to produce an acidic standard solution with a concentration of 1.5 mol dm^{-3} . [Relative atomic mass: C=12, H=1, O=16]

[2 markah/ mark]

- (c) Munirah ingin menyediakan 500 cm^3 larutan piawai asid oksalik terhidrat, $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$ 0.5 mol dm^{-3} daripada larutan stok asid oksalik terhidrat $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$ 1.5 mol dm^{-3} .

Munirah wants to prepare 500 cm^3 of a standard solution of hydrated oxalic acid, $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$ 0.5 mol dm^{-3} from a stock solution of hydrated oxalic acid, $(\text{COOH})_2 \cdot 2\text{H}_2\text{O}$ 1.5 mol dm^{-3} .

- (i) Namakan kaedah untuk menyediakan larutan piawai tersebut.

Name the method to prepare the standard solution.

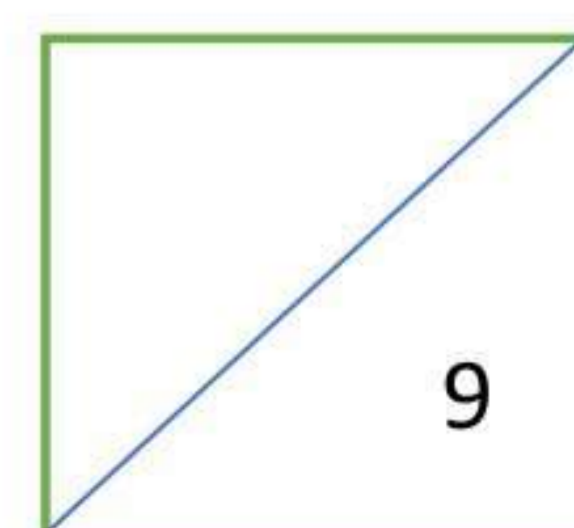
.....

[1 markah/ mark]

- (ii) Hitung isipadu larutan stok yang diperlukan untuk menyediakan larutan piawai tersebut.

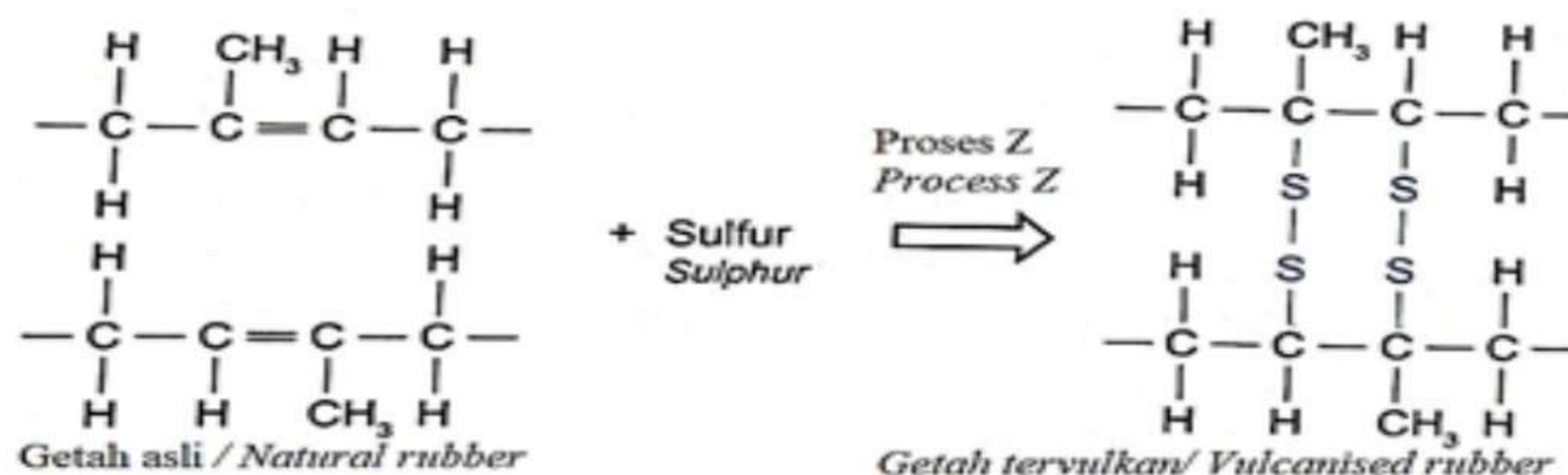
Calculate the volume of stock solution needed to prepare the standard solution.

[2 markah/ mark]



7 (a) Rajah 7 menunjukkan bagaimana Proses Z menukarkan getah asli ke getah tervulkan

Diagram 7 shows how Process Z convert natural rubber into vulcanised rubber



Rajah 7 / Diagram 7

Berdasarkan Rajah 7

Based on Diagram 7

(i) Apakah nama proses Z?

What is the name of process Z?

.....

[1 markah / mark]

(ii) Terangkan bagaimana getah tervulkan dihasilkan.

Explain how vulcanised rubber is produced.

.....

.....

[1 markah / mark]

(iii) Getah yang manakah lebih elastik? Terangkan jawapan anda

Which rubber is more elastic? Explain your answer.

.....

.....

.....

.....

[3 markah / marks]

(b) Penggunaan getah sintetik yang tidak terkawal membawa kepada masalah pencemaran alam

Uncontrolled usage of synthetic rubber leads to environmental pollution problems.

(i) Cadangkan 2 cara untuk mengatasi masalah akibat penggunaan getah sintetik yang berleluasa.

Suggest 2 ways to overcome the problems resulting from the widespread usage of synthetic rubber.

.....

.....

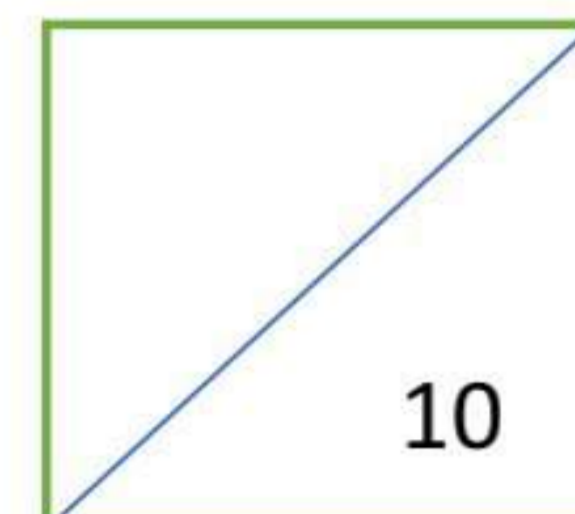
[2 markah / marks]

- (ii) Apakah 3 kelebihan sarung tangan yang dibuat daripada getah sintetik berbanding dengan getah asli?

What are 3 advantages of gloves made form synthetic rubber as compared to natural rubber?

.....

[3 markah / marks]



- 8 Azrul dan rakan menjalankan eksperimen untuk menyiasat faktor yang mempengaruhi kadar tindakbalas antara serbuk logam zink dengan asid hidroklorik.

Azrul and his friends carried out experiments to investigate the factor affecting the rate of reaction between powdered metal zinc and hydrochloric acid.

Jadual 8 menunjukkan maklumat berkaitan bahan tindak balas dan masa yang diambil untuk mengumpul 30 cm³ gas P.

Table 8 shows the information about the reactants and the time taken to collect 30 cm³ of gas P

Eksperimen <i>Experiment</i>	Bahan tindak balas <i>Reactants</i>	Masa yang diambil / s <i>Time taken / s</i>
I	Serbuk logam zink + 50 cm ³ asid hidroklorik 1.0 mol dm ⁻³ <i>Powdered metal zinc + 50 cm³ of 1.0 mol dm⁻³ hydrochloric acid</i>	10
II	Serbuk logam zink + 100 cm ³ asid hidroklorik 0.5 mol dm ⁻³ <i>Powdered metal zinc + 100 cm³ of 0.5 mol dm⁻³ hydrochloric acid</i>	20

Jadual 8/ Table 8

- (a) Apakah maksud kadar tindakbalas?
What is the meaning of rate of reaction?

.....

[1 markah / mark]

- (b) Berdasarkan jadual di atas,
Based on the table above,
- (i) Nyatakan gas yang terhasil.
State the gas produced.

.....
[1 markah / mark]

- (ii) Tulis persamaan ion bagi tindakbalas itu.
Write the ionic equation for the reaction.

.....
[1 markah / mark]

- (c) (i) Hitung kadar tindakbalas purata bagi eksperimen I dan eksperimen II
Calculate the average rate of reaction for experiment I and experiment II

[2 markah / marks]

- (ii) Berdasarkan jawapan di c(i), bandingkan kadar tindakbalas antara eksperimen I dan eksperimen II. Nyatakan faktor yang mempengaruhi kadar tindak balas dalam eksperimen ini.

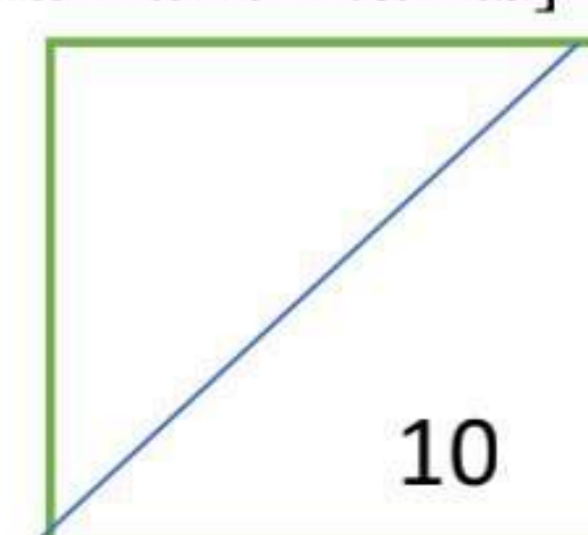
Based on the answer in c(i), compare the rate of reaction between experiment I and experiment II. State the factor that affects the rate of reaction.

.....
.....
[2 markah / marks]

- (iii) Dengan menggunakan teori perlanggaran, terangkan perbezaan kadar tindakbalas c(ii).
By using the collision theory, explain the difference in the rate of reaction for c(ii).

.....
.....
.....
.....

[3 markah / marks]



Bahagian B

Section B

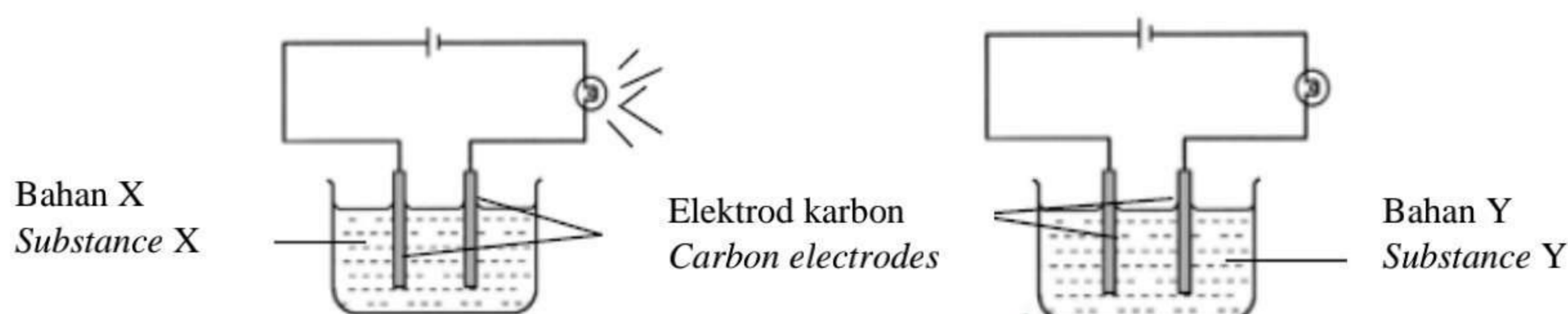
[20 markah/ marks]

Jawab mana-mana **satu** soalanAnswer any **one** question

- 9 Bahan X dan Y merupakan dua bahan tidak berwarna dalam keadaan cecair. Rajah 9.1 menunjukkan susunan radas untuk menentukan sama ada bahan X dan Y adalah suatu elektrolit.

Substances X and Y are two colourless substances in a liquid state.

Diagram 9.1 shows the set-up of apparatus to determine whether substances X and Y are electrolyte.



Rajah 9.1 / Diagram 9.1

Berdasarkan Rajah 9.1,

Based on Diagram 9.1,

- (a) (i) Nyatakan maksud elektrolit.

State the meaning of electrolyte.

[1 markah / mark]

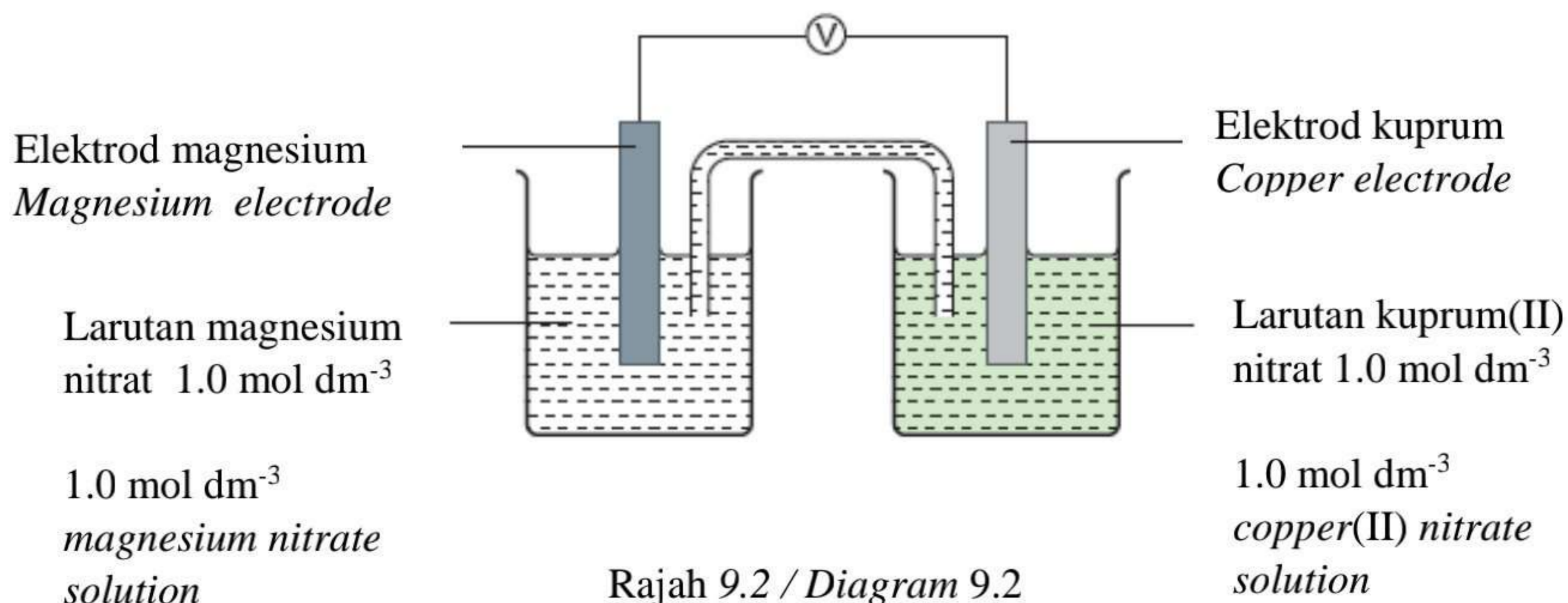
- (ii) Bahan manakah X atau Y ialah suatu elektrolit? Terangkan.

Which substance X or Y is an electrolyte? Explain.

[2 markah / marks]

- (b) Rajah 9.2 menunjukkan susunan radas untuk sel kimia A.

Diagram 9.2 shows the apparatus set-up for chemical cell A.



Rajah 9.2 / Diagram 9.2

Berdasarkan Rajah 9.2,

Based on Diagram 9.2,

- (i) Tuliskan notasi sel bagi sel kimia ini

Write cell notation of the chemical cell.

[1 markah / mark]

- (ii) Nyatakan pemerhatian dan tuliskan setengah persamaan pada elektrod magnesium.

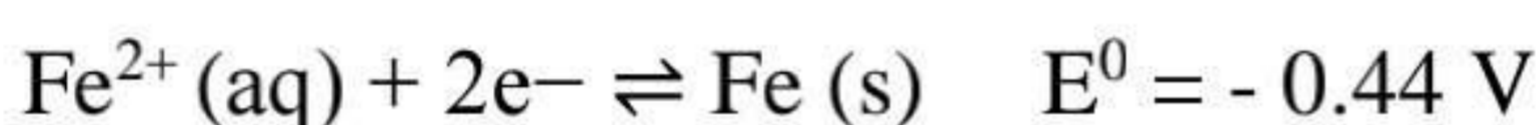
State the observation and write half equation at magnesium electrode.

[2 markah / marks]

- (iii) Sekiranya elektrod magnesium dan larutan magnesium nitrat dalam sel kimia A digantikan dengan elektrod ferum dan larutan ferum(II) klorida untuk membentuk sel kimia B, jelaskan perbezaan voltan sel bagi sel kimia A dan B.

If the magnesium electrode and magnesium nitrate solution in Chemical Cell A are replaced by an iron electrode and iron(II) chloride solution to form Chemical Cell B, explain the difference of the cell voltages of chemical cells A and B.

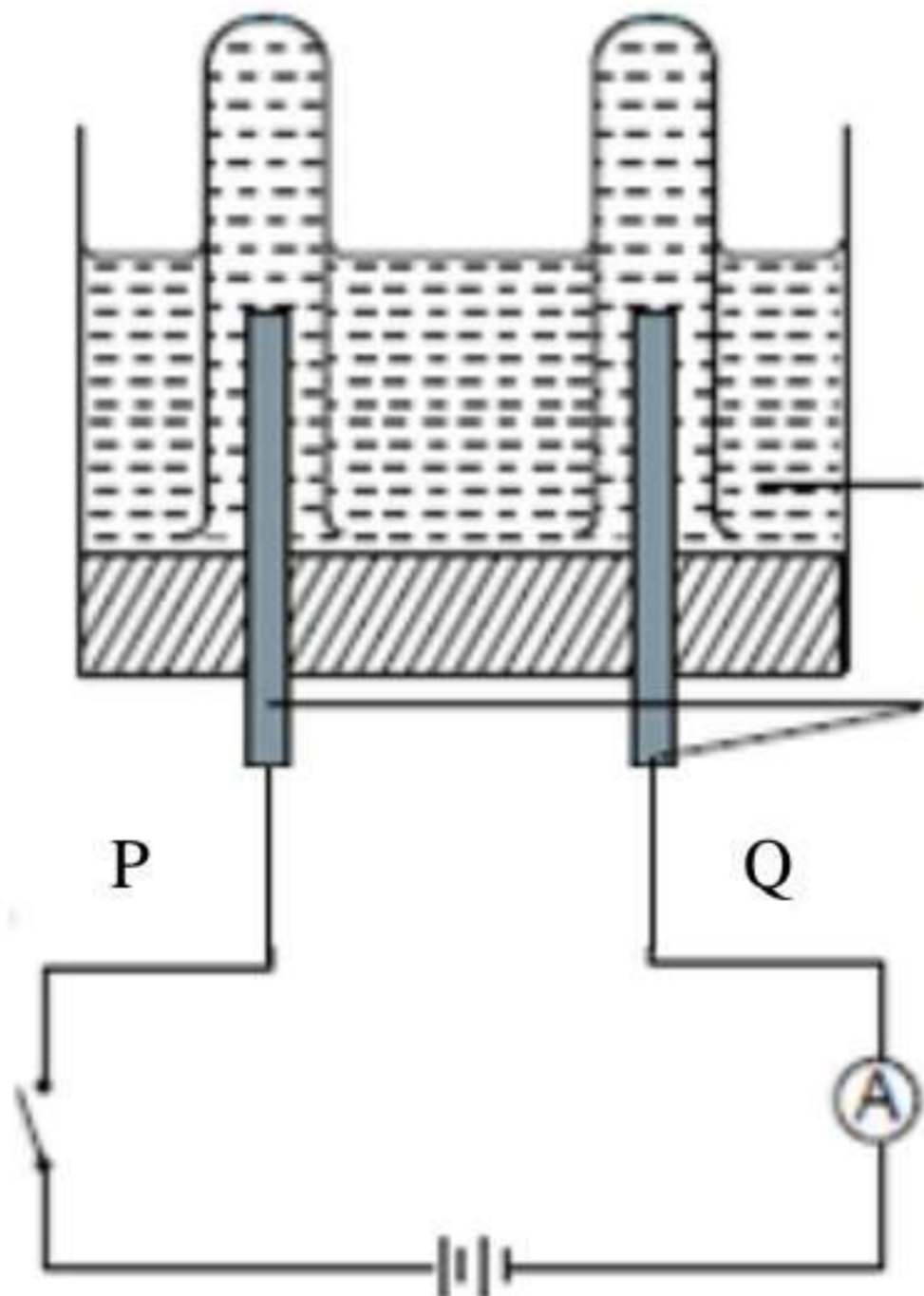
Diberi / Given

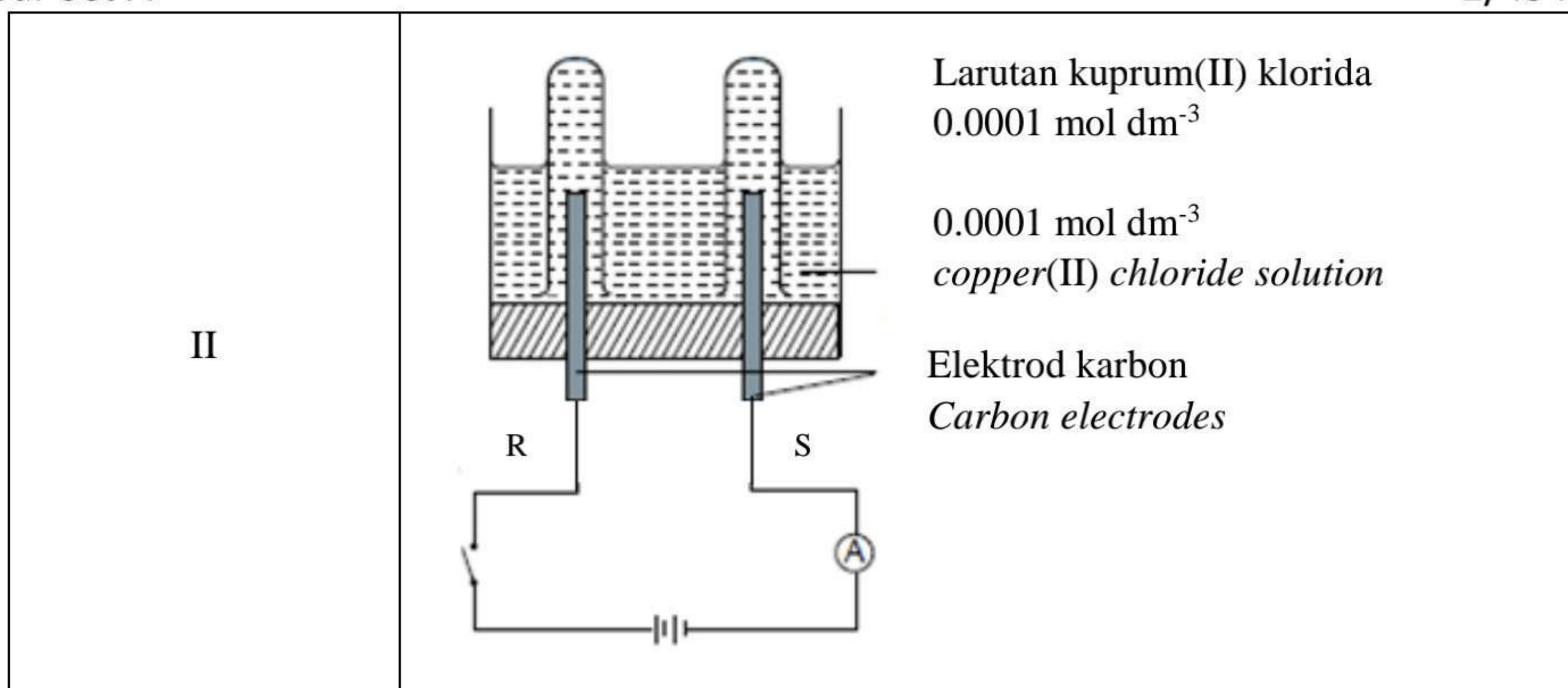


[4 markah / marks]

- (c) Rajah 9.3 menunjukkan susunan radas yang digunakan dalam eksperimen untuk mengkaji elektrolisis larutan kuprum(II) klorida.

Diagram 9.3 shows the apparatus set-up used in experiment to study the electrolysis of copper(II) chloride solution.

Eksperimen <i>Experiment</i>	Susunan radas <i>Apparatus set-up</i>
I	 <p>Larutan kuprum(II) klorida 1.0 mol dm⁻³</p> <p>1.0 mol dm⁻³ copper(II) chloride solution</p> <p>Elektrod karbon Carbon electrodes</p>



Rajah / Diagram 9.3

Suis ditutup dan dibiarkan selama 20 minit. Jadual 9 menunjukkan pemerhatian selepas 20 minit.

The switch is closed and left for 20 minutes. Table 9 shows the observations after 20 minutes.

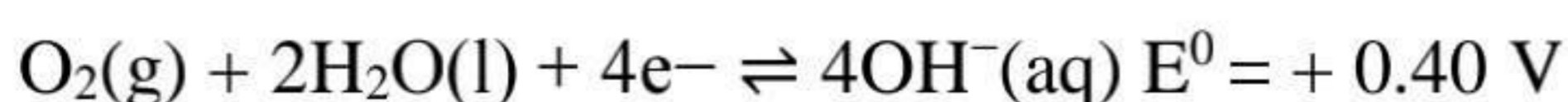
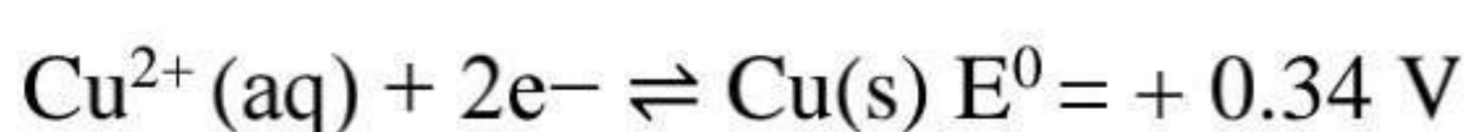
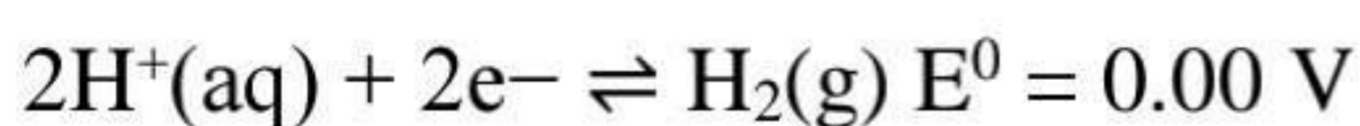
Eksperimen <i>Experiment</i>	Pemerhatian <i>Observation</i>
I	Gas kuning kehijauan terbentuk pada elektrod karbon P. Pepejal perang terbentuk pada elektrod karbon Q. Keamatan larutan biru semakin berkurang. <i>Greenish-yellow gas is produced at carbon electrode P. Brown solid is formed at carbon electrode Q. Intensity of blue colour solution decrease.</i>
II	Gas tidak berwarna terbentuk pada elektrod karbon R. Pepejal perang terbentuk pada elektrod karbon S. Keamatan larutan biru semakin berkurang. <i>Colourless gas is produced at carbon electrode R. Brown solid is formed at carbon electrode S. Intensity of blue colour solution decrease.</i>

Jadual 9 / Table 9

Nyatakan nama hasil pada elektrod P, Q, R dan S. Jelaskan pemerhatian dan tuliskan persamaan setengah pada anod dan katod eksperimen I.

State the name of the products at electrodes P, Q, R and S. Explain the observations and write half equations at the anode and cathode of experiment I.

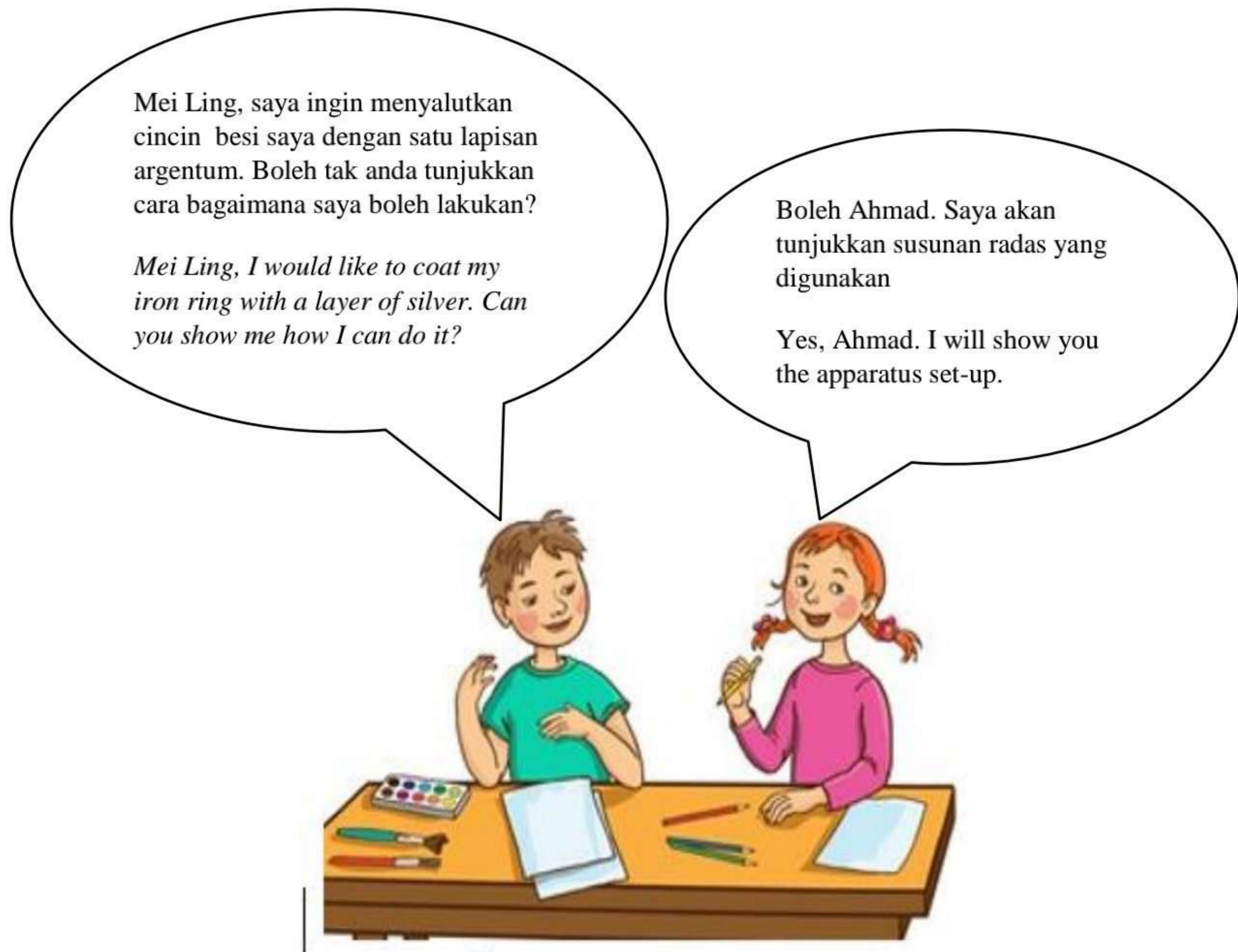
Diberi/ *Given*



[8 markah / marks]

(d) Rajah 9.4 menunjukkan perbualan di antara Ahmad dan Mei Ling.

Diagram 9.4 shows the conversation between Ahmad and Mei Ling.



Rajah / Diagram 9.4

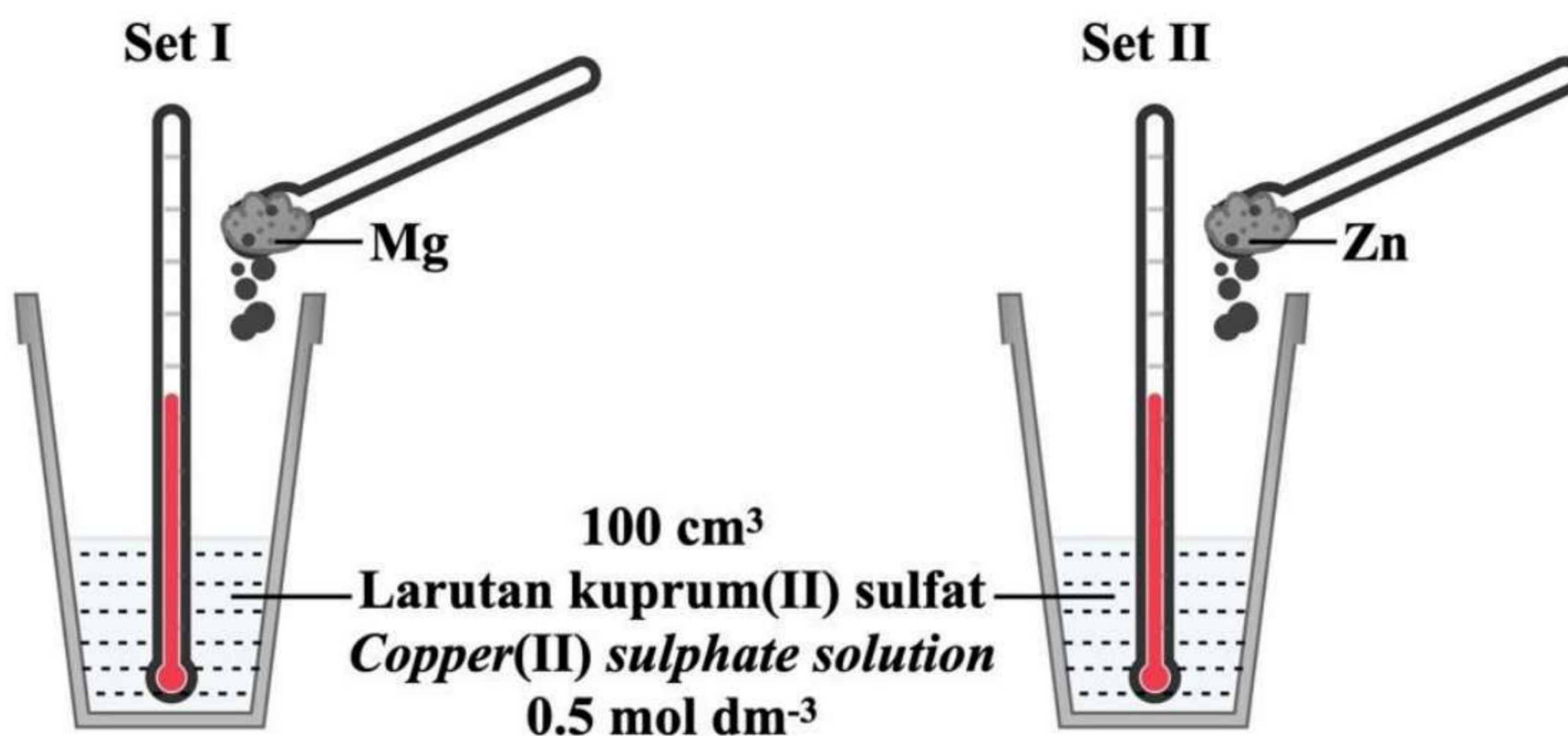
Lukiskan satu gambar rajah berlabel susunan radas untuk aktiviti Ahmad.

Draw a labelled diagram of the apparatus set-up for Ahmad's activity.

[2 markah / marks]

- 10 (a) Rajah 10 menunjukkan susunan radas bagi membandingkan haba penyesaran kuprum daripada larutan kuprum(II) sulfat oleh serbuk magnesium, Mg dan serbuk zink, Zn.

Diagram 10 shows the apparatus set up to compare the heat of displacement of copper from copper(II) sulphate solution by magnesium powder, Mg and zinc powder, Zn.



Rajah / Diagram 10

Jadual 10.1 menunjukkan keputusan eksperimen itu.

Table 10.1 shows the results of the experiment.

Suhu (°C) <i>Temperature (°C)</i>	Set I	Set II
Awal, θ_i <i>Initial, θ_i</i>	27.0	27.0
Tertinggi, θ_f <i>Highest, θ_f</i>	32.0	31.0

Jadual / Table 10.1

- (i) Dengan memilih sama ada Set I atau Set II, jawab soalan berikut :

By choosing either Set I or Set II, answer the following questions :

- maksud haba penyesaran.
the meaning of heat of displacement.
- satu langkah berjaga-jaga semasa menjalankan eksperimen ini.
one precautionary step while conducting the experiment.
- Nyatakan satu pemerhatian selain daripada perubahan suhu.
State another observation, other than change in temperature
- Tuliskan inferens bagi pemerhatian tersebut
Write the inference for the observation.

[4 markah / marks]

- (ii) Hitung haba penyesaran bagi kedua-dua set eksperimen dan terangkan mengapa terdapat perbezaan pada nilai haba penyesaran itu.

[Diberi muatan haba tentu bagi larutan ialah $c = 4.2 \text{ J g}^{-1}\text{C}^{-1}$,

ketumpatan larutan = 1 g cm^{-3}]

Calculate the heat of displacement of both sets of experiment and explain why there is a difference in the value of the heat of displacement.

[Given that the heat capacity of solution is $c = 4.2 \text{ J g}^{-1}\text{C}^{-1}$,

density of solution = 1 g cm^{-3}]

[6 markah / marks]

- (b) Jadual 10.2 menunjukkan bilangan atom karbon per molekul alkohol dan haba pembakaran bagi metanol, etanol, propanol dan butanol.

Table 10.2 shows the number of carbon atoms per alcohol molecule and the heat of combustion of methanol, ethanol, propanol and butanol.

Alkohol <i>Alcohol</i>	Bilangan atom karbon per molekul alkohol <i>Number of carbon atoms per alcohol molecule</i>	Haba pembakaran <i>Heat of combustion</i> (kJ mol⁻¹)
Metanol <i>Methanol</i>	1	-720
Etanol <i>Ethanol</i>	2	-1350
Propanol <i>Propanol</i>	3	
Butanol <i>Butanol</i>	4	-2680

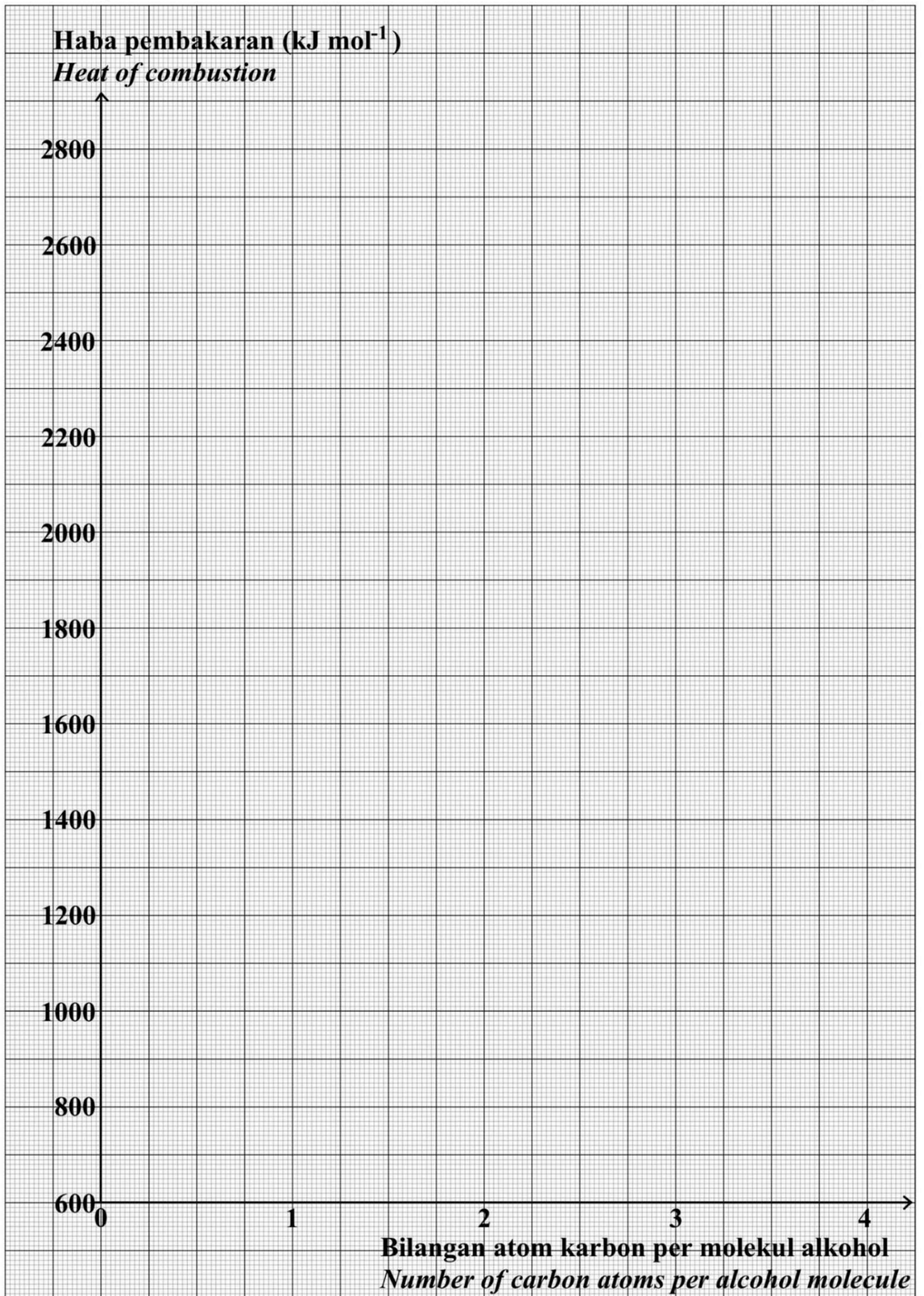
Jadual / Table 10.2

- (i) Dengan menggunakan data pada Jadual 10.2 lukis satu graf bagi haba pembakaran melawan bilangan atom karbon per molekul alkohol di halaman 19.

Daripada graf yang dilukis, tentukan nilai haba pembakaran bagi propanol.

By using data in Table 10.2 draw a graph of combustion against the number of carbon atoms per alcohol molecule on 19. From the graph plotted, determine the value of the heat of combustion of propanol.

[3 markah / marks]



- (ii) Terangkan mengapa haba pembakaran bagi propanol dan butanol berbeza. Sertakan persamaan kimia bagi pembakaran lengkap propanol dan butanol untuk membantu penerangan anda.

Explain why the heat of combustion of propanol and butanol are different. Include the chemical equations for the complete combustion of propanol and butanol to aid your explanation.

[5 markah / marks]

- (c) Jadual 10.3 menunjukkan perbandingan haba pembakaran bagi dua bahan api.

Table 10.3 shows the comparison of the heat of combustion of two fuels.

Bahan api <i>Fuel</i>	Haba pembakaran (kJ mol⁻¹) <i>Heat of combustion</i>
Metana <i>Methane</i>	-880
Metanol <i>Methanol</i>	-720

Jadual 10.3 / Table 10.3

Yusuf telah mencipta suatu mesin untuk membantu mempercepatkan kerjanya di bengkel.

Berdasarkan Jadual 10.3 pilih bahan api yang paling sesuai digunakan dalam mesin tersebut, berdasarkan faktor nilai bahan api atau kesan ke atas alam sekitar. Wajarkan pilihan anda.

[Jisim atom relatif : H = 1, C = 12, O = 16]

Yusuf created a machine to help speed up his work at the workshop. Based on Table 10.3, choose the most suitable fuel for the machine, based on either the fuel value or the effects of the fuel on the environment. Justify your choice.

[Relative atomic mass : H = 1, C = 12, O = 16]

[2 markah / marks]

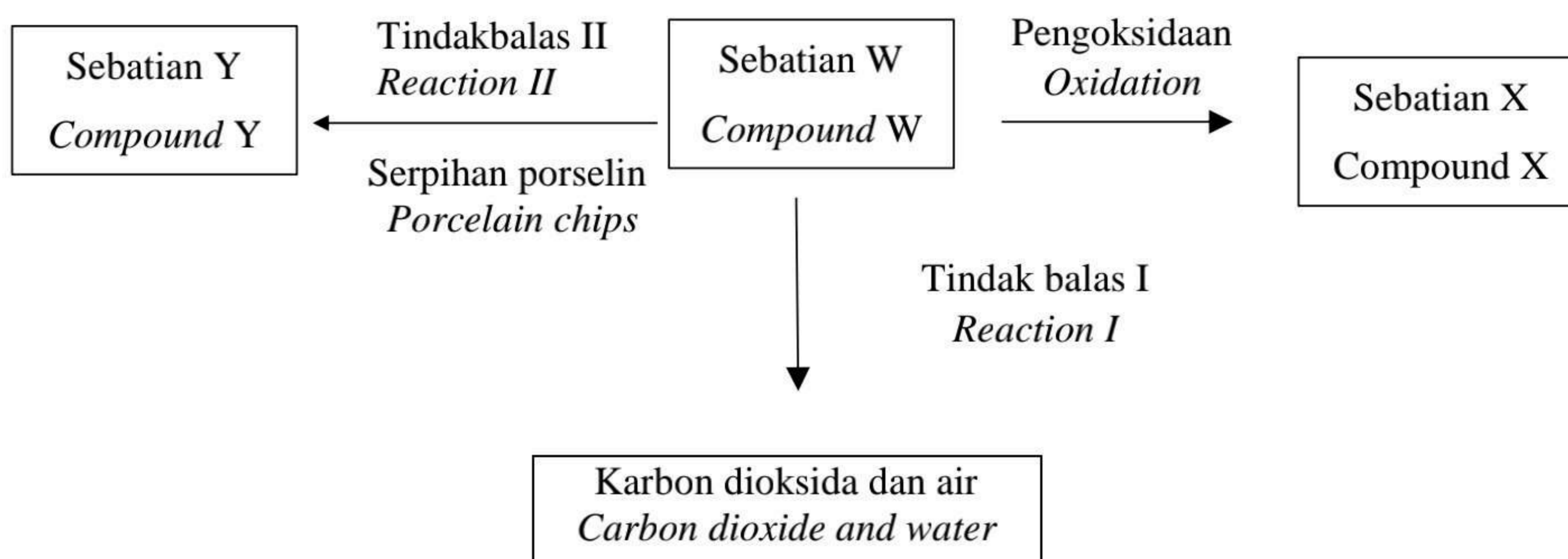
Bahagian C**Section C**

[20 markah/ marks]

Jawab semua soalan dalam bahagian

Answer all questions in this section

- 11** Rajah 11 menunjukkan penukaran sebatian W kepada sebatian X dan sebatian Y. Sebatian W mempunyai formula molekul $C_4H_{10}O$.
Diagram 11 shows the conversions of compound X and compound Y. Compound W has a molecular formula of $C_4H_{10}O$.



Rajah /Diagram 11

- (a) (i) Berdasarkan Rajah 11
Based on diagram 11

- Nyatakan nama bagi sebatian W
State the name of compound W
- Sebatian W boleh membentuk isomer.
 Lukis formula struktur dan namakan salah satu isomer bagi sebatian W.
*Compound W can form isomers.
 Draw structural formula and name one of the isomer for compound W*
- Nyatakan nama bagi Tindak balas II dan tulis persamaan tindak balas tersebut.
State the name of the Reaction II and write the chemical equation for the reaction

[5 markah/mark]

- (ii) Hitung isipadu gas karbon dioksida terhasil apabila 7.4g sebatian W dibakar dalam oksigen berlebihan
[Jisim atom relatif; H=1; C=12; O=16]
[Isipadu molar gas=24dm³mol⁻¹]

Calculate the volume of carbon dioxide gas produced when 7.4g compound W is burnt in excess oxygen

[Relative atomic mass: H=1; C=12; O=16]

[Molar volume of gas=24dm³mol⁻¹]

[2 markah/marks]

- (b) Seorang murid telah diberikan dua cecair tidak berwarna yang merupakan sebatian alkana dan alkena
Gurunya telah meminta beliau untuk membuat ujian pengesahan cecair. Nyatakan dan huraikan satu ujian kimia yang boleh dibuat oleh murid berkenaan untuk membezakan dua cecair tersebut.

A student was given two colourless liquids which are alkane and alkene compound. Her teacher asked him to do a confirmation test. State and describe a chemical test that can be used to distinguish between the liquids.

[5 markah/marks]

- (c) Diana ingin membakar tart nanas. Dia pergi ke kedai roti untuk membeli pati nanas. Sebagai pelajar kimia, bagaimanakah anda membantunya menyediakan pati nanas (etil butanoat) di makmal dengan menamakan dua bahan yang terlibat, Tulis persamaan kimia untuk tindak balas dan prosedur penyediaan.

Diana wants to bake a pineapple tart. She went to bakery to buy pineapple essence. As a chemistry student how would you help her to prepare the pineapple essence (ethyl butanoate) in the laboratory by naming the two substances involve, write the chemical equation for the reaction and procedure of preparation.

[8 markah/marks]

KERTAS SOALAN TAMAT

END OF QUESTION PAPER