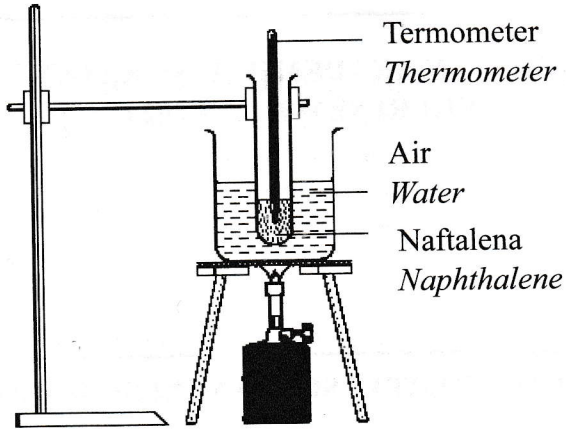
Bahagian A
[60 *markah*]
Jawab **semua** *soalan dalam bahagian ini*

1 Rajah 1 menunjukkan susunan radas untuk menentukan takat lebur bagi naftalena.
Diagram 1 *shows apparatus set-up to determine the melting point of naphthalene.*



Rajah 1
Diagram 1

(*a*) Nyatakan maksud takat lebur.
State the meaning of melting point.

.....

.....

[1 *markah* / 1 *mark*]

(*b*) Nyatakan jenis zarah bagi naftalena dan keadaan fiziknya selepas dipanaskan.
State the type particle of naphthalene and its physical state after heating.

Jenis zarah : .....
Type of particles

Keadaan fizik : .....
Physical state

[2 *markah* / 2 *marks*]

(*c*) Berdasarkan Rajah 1, namakan kaedah pemanasan dan terangkan mengapa kaedah ini digunakan.
Based on Diagram 1, *name the method of heating and explain why this method is used.*

Kaedah : .....
Method

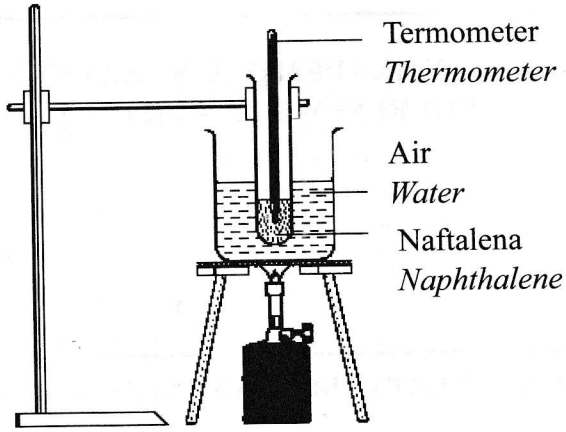
Alasan : .....
Reason

.....

[2 *markah* / 2 *marks*]

Bahagian A
[60 *markah*]
Jawab **semua** *soalan dalam bahagian ini*

1 Rajah 1 menunjukkan susunan radas untuk menentukan takat lebur bagi naftalena.
Diagram 1 *shows apparatus set-up to determine the melting point of naphthalene.*



Rajah 1
Diagram 1

(*a*) Nyatakan maksud takat lebur.
State the meaning of melting point.

.....

.....

[1 *markah* / 1 *mark*]

(*b*) Nyatakan jenis zarah bagi naftalena dan keadaan fiziknya selepas dipanaskan.
State the type particle of naphthalene and its physical state after heating.

Jenis zarah : .....
Type of particles

Keadaan fizik : .....
Physical state

[2 *markah* / 2 *marks*]

(*c*) Berdasarkan Rajah 1, namakan kaedah pemanasan dan terangkan mengapa kaedah ini digunakan.
Based on Diagram 1, *name the method of heating and explain why this method is used.*

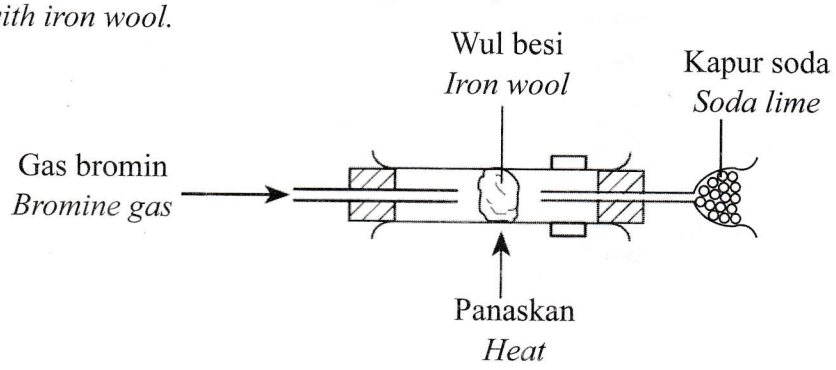
Kaedah : .....
Method

Alasan : .....
Reason

.....

[2 *markah* / 2 *marks*]

2 Rajah 2.1 menunjukkan susunan radas untuk tindak balas antara sejenis halogen dengan wul besi.
Diagram 2.1 shows set up of apparatus for the reaction between a type of halogen with iron wool.



Rajah 2.1
Diagram 2.1

(*a*) Apakah warna gas bromin?
What is the colour of bromine gas?

.....

[1 *markah* / 1 *mark*]

(*b*) Tindak balas dalam Rajah 2.1 menghasilkan sejenis sebatian yang berwarna perang.
Namakan sebatian yang terbentuk dan tuliskan formula sebatian tersebut.
The reaction in Diagram 2.1 produces a brown colour compound.
Name the compound formed and write the formula for the compound.

Nama : .....
Name

Formula : .....
Formula

[2 *markah* / 2 *marks*]

(*c*) (i) Saiz atom klorin lebih kecil daripada atom bromin.
Bandingkan kereaktifan klorin dan bromin apabila bertindak balas dengan wul besi.
Atomic size of chlorine is smaller than bromine atom.
Compare the reactivity of chlorine and bromine when reacts with iron wool.

.....

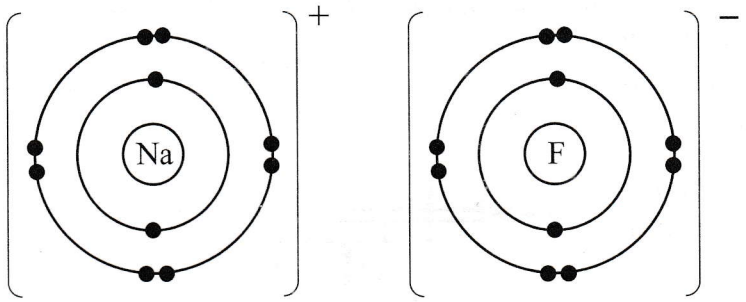
[1 *markah* / 1 *mark*]

(ii) Terangkan jawapan anda di **2**(*c*)(i).
Explain your answer in **2**(*c*)(i).

.....

[1 *markah* / 1 *mark*]

3 Rajah 3 menunjukkan susunan elektron bagi natrium fluorida.
Diagram 3 shows the electron arrangement of sodium fluoride.



Rajah 3
Diagram 3

(*a*) (i) Nyatakan jenis ikatan kimia dalam natrium fluorida.
State the type of chemical bond in sodium fluoride.

.....
[1 *markah* / 1 *mark*]

(ii) Terangkan bagaimana ikatan kimia dalam **3**(*a*)(i) terbentuk.
Explain how the chemical bond in **3**(*a*)(i) *is formed.*

.....
[1 *markah* / 1 *mark*]

(*b*) (i) Natrium bertindak balas dengan gas fluorin untuk membentuk natrium fluorida.
Tuliskan persamaan kimia bagi tindak balas yang berlaku.
Sodium reacts with fluorine gas to form sodium fluoride.
Write a chemical equation for the reaction taken place.

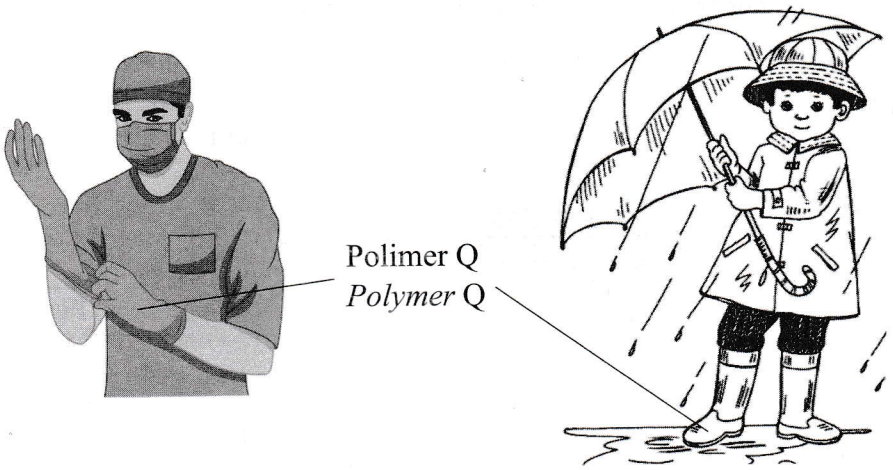
.....
[2 *markah* / 2 *marks*]

(ii) Dalam tindak balas **3**(*b*)(i), 0.03 mol natrium telah bertindak balas dengan gas fluorin.
Hitungkan jisim natrium fluorida yang terhasil.
[Jisim atom relatif: F = 19, Na = 23]

In the reaction in **3**(*b*)(i), 0.03 mol *sodium reacted with fluorine gas.*
Calculate the mass of sodium fluoride produced.
[*Relative atomic mass*: F = 19. Na = 23]

[2 *markah* / 2 *marks*]

4 Rajah 4.1 menunjukkan dua bahan yang diperbuat daripada sejenis polimer.
Diagram 4.1 *shows two products that is made up of a type of polymer.*



Rajah 4.1
Diagram 4.1

(*a*) Polimer Q adalah getah asli dan monomernya mengikut penamaan IUPAC ialah 2-metilbut-1,3-diena.
Polymer Q *is a natural rubber and its monomer according to the* IUPAC *nomenclature is* 2-*methylbut*-1,3-*diene*.

(i) Apakah nama lain bagi monomer ini?
What is the other name of the monomer?

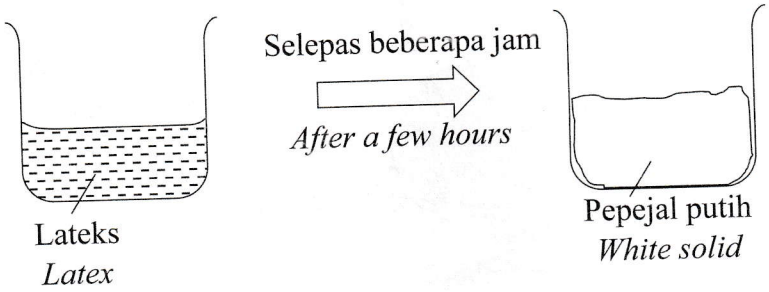
.....

[1 *markah* / 1 *mark*]

(ii) Lukiskan formula struktur bagi monomer ini.
Draw the structural formula for this monomer.

[1 *markah* / 1 *mark*]

(*b*) Lateks merupakan sejenis koloid yang mengandungi polimer Q dan air. Rajah 4.2 menunjukkan satu situasi bagi lateks.
Latex is a type of colloid that contains polymer Q *and water. Diagram* 4.2 *shows a situation for latex.*



Rajah 4.2
Diagram 4.2

Apakah yang perlu dilakukan untuk mengelakkan situasi dalam Rajah 4.2 berlaku? Jelaskan jawapan anda.
What should be done to prevent the situation in Diagram 4.2? *Explain your answer.*

.....

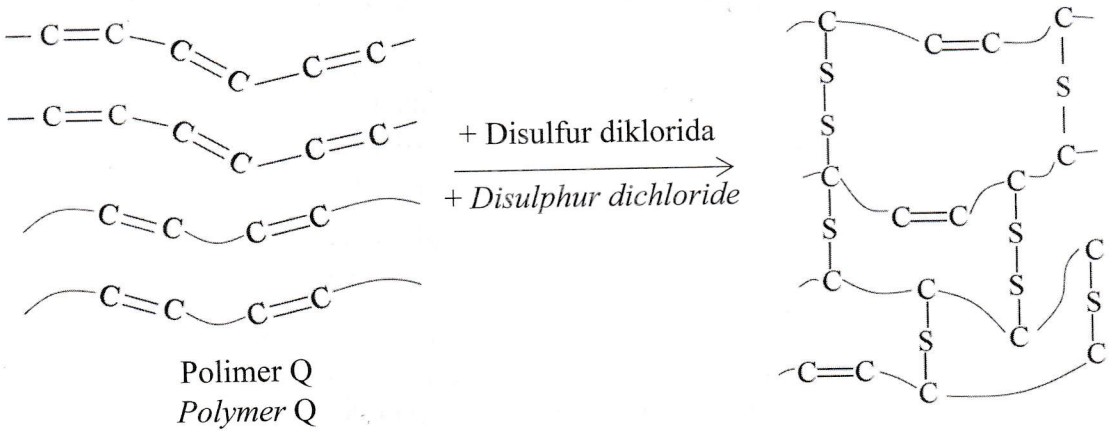
.....

.....

.....

[3 *markah* / 3 *marks*]

(*c*) Rajah 4.3 menunjukkan satu proses yang berlaku pada polimer Q bagi meningkatkan ciri-cirinya.
Diagram 4.3 *shows a process on polymer* Q *to improve its characteristics.*



Polimer Q
Polymer Q

Rajah 4.3
Diagram 4.3

(i) Namakan proses dalam Rajah 4.3.
Name the process in Diagram 4.3.

.....

[1 *markah* / 1 *mark*]

(ii) Apakah kesan proses dalam **4**(*c*)(i) ke atas ciri-ciri polimer Q?
What is the effect of the process in **4**(*c*)(i) *on the characteristic of polymer* Q?

.....

[1 *markah* / 1 *mark*]

5 (*a*) Jadual 1.1 menunjukkan komposisi dan kegunaan tiga jenis aloi.
Table 1.1 *shows the composition and uses of three types of alloy.*

Jenis aloi ***Type of alloy***	**Komposisi** ***Composition***
Keluli nirkarat *Stainless steel*	73% ferum, 18% kromium, 8% nikel dan 1% karbon 73% *iron*, 18% *chromium*, 8% *nickel and* 1% *carbon*
Loyang *Brass*	70% kuprum dan 30% logam R 70% *copper and* 30% *metal* R
Duralumin *Duralumin*	93% aluminium, 3% kuprum 3% magnesium dan 1% mangan 93% *aluminium*, 3% *copper*, 3% *magnesium and* 1% *manganese*

Jadual 1.1
Table 1.1

Berdasarkan Jadual 1.1,
Based on Table 1.1,

(i) Namakan logam R.
Name metal R.

.....
[1 *markah* / 1 *mark*]

(ii) Nyatakan satu kegunaan keluli nirkarat.
State one use of stainless steel.

.....
[1 *markah* / 1 *mark*]

(iii) Cadangkan aloi yang manakah sesuai untuk pembuatan basikal lumba. Berikan alasan anda.
Suggest the type of alloy that is suitable to be used to manufacture the racing bicycle. Give your reason.

.....

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

(*b*) Jadual 1.2 menunjukkan keputusan bagi satu eksperimen mengkaji kekerasan aloi dan logam tulen.
Table 1.2 *shows the result of an experiment to study the hardness of alloy and pure metal.*

Jenis blok ***Block type***	**Diameter lekuk (cm)** ***Diameter of the dent*** **(cm)**
Bahan X *Material* X	0.8
Bahan Y *Material* Y	0.5

Jadual 1.2
Table 1.2

Berdasarkan diameter lekuk yang terhasil, bahan yang manakah sesuai untuk membina sebuah jambatan. Terangkan jawapan anda.
Based on the diameter of dents, which material is suitable to build a bridge. Explain your answer.

.....

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

(*c*) Bahan komposit merupakan bahan yang terdiri daripada gabungan dua atau lebih bahan yang bukan homogen iaitu bahan matriks dan bahan pengukuh.
Ali memakai cermin mata kerana rabun jauh. Dia berasa sakit mata apabila terdedah kepada cahaya matahari.
Nyatakan satu bahan komposit yang boleh membantu Ali untuk mengatasi masalah ini. Terangkan jawapan anda.

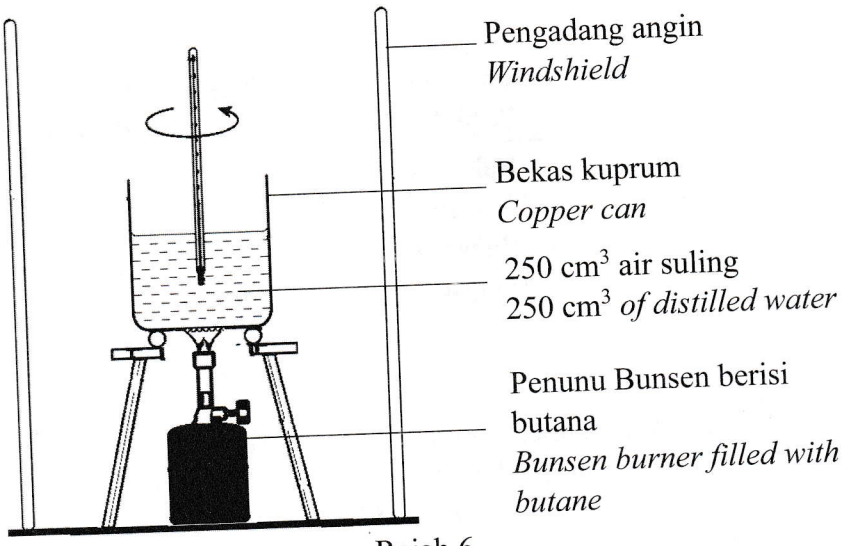
A composite material is a material made from combining two or more non-homogeneous substances, that is matrix substance and strengthening substance.
Ali wears glasses because he is farsighted. He felt pain in his eyes when exposed to sunlight.
State a composite material that can help to overcome the problem. Explain your answer.

.....

.....

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

6 Rajah 6 menunjukkan susunan radas bagi menentukan haba pembakaran butana.
Diagram 6 shows the apparatus set-up to determine the heat of combustion of butane.



Rajah 6
Diagram 6

Dalam eksperimen tersebut, air telah dipanaskan sehingga suhu meningkat sebanyak 40°C.
Keputusan eksperimen telah direkodkan seperti yang berikut:
In the experiment, water was heated until the temperature increased by 40°C.
The result of experiment was recorded as below:

Penerangan ***Description***	**Jisim (g)** ***Mass* (g)**
Jisim penunu Bunsen dengan butana sebelum pemanasan *Mass of Bunsen burner with butane before heating*	595.00
Jisim penunu Bunsen dengan butana selepas pemanasan *Mass of Bunsen burner with butane after heating*	594.13

(*a*) Nyatakan maksud haba pembakaran.
State the meaning of heat of combustion.

.....

.....
[1 *markah* / 1 *mark*]

(*b*) Nyatakan jenis tindak balas bagi pembakaran butana.
State the type of reaction for combustion of butane.

.....
[1 *markah* / 1 *mark*]

(*c*) Hitungkan haba pembakaran butana.
[Jisim atom relatif: H = 1; C = 12; Muatan haba tentu air = 4.2 J $g^{-1}°C^{-1}$; Ketumpatan air = 1 g cm^{-3}]

Calculate the heat of combustion of butane.
[*Relative atomic mass*: H = 1; C = 12; *Specific heat capacity of water* = 4.2 J $g^{-1}°C^{-1}$; *Density of water* = 1 g cm^{-3}]

[4 *markah* / 4 *marks*]

(*d*) Jadual 2 menunjukkan haba pembakaran bagi metanol dan propanol
Table 2 shows the heat of combustion for methanol and propanol.

Alkohol ***Alcohol***	**Haba pembakaran (kJ mol^{-1})** ***Heat of combustion* (kJ mol^{-1})**
Metanol *Methanol*	− 726
Propanol *Propanol*	− 2021

Jadual 2
Table 2

Bandingkan haba pembakaran methanol dan propanol.
Terangkan perbezaannya.
Compare the heat of combustion of methanol and propanol.
Explain the difference.

.....

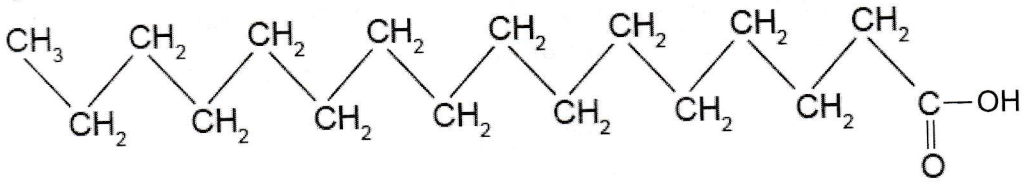
.....

.....

.....

[3 *markah* / 3 *marks*]

7 (*a*) Rajah 7.1 menunjukkan tindak balas dalam penghasilan satu agen pencuci menggunakan asid palmitik.
Diagram 7.1 *shows the reaction in producing a cleaning agent by using palmitic acid.*



+ NaOH

↓

Agen pencuci X
Cleaning agent X

Rajah 7.1
Diagram 7.1

Berdasarkan Rajah 7.1,
Based on Diagram 7.1,

(i) Nyatakan jenis asid lemak bagi asid palmitik.
State the type of fatty acid for palmitic acid.

.....

[1 *markah* / 1 *mark*]

(ii) Namakan tindak balas tersebut.
Name the reaction.

.....

[1 *markah* / 1 *mark*]

(iii) Lukis formula struktur bagi agen pencuci X.
Draw the structural formula for cleaning agent X.

[1 *markah* / 1 *mark*]

(iv) Namakan struktur dalam **7**(*a*)(iii).
Name the structure in **7**(*a*)(iii).

.....

[1 *markah* / 1 *mark*]

(v) Terangkan keberkesanan tindakan pencucian agen pencuci X dalam air liat.
Explain the effectiveness of cleansing action of cleaning agent X *in hard water.*

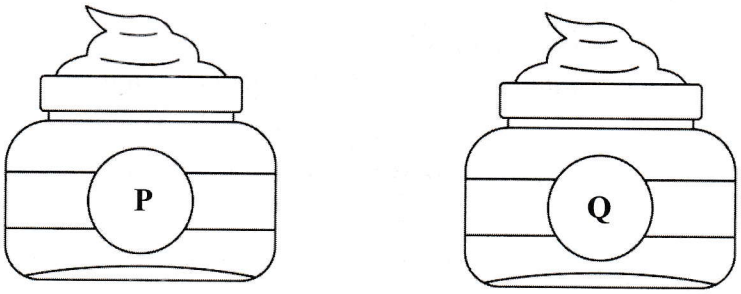
.....

.....

.....

[2 *markah* / 2 *marks*]

(*b*) Rajah 7.2 menunjukkan dua jenis kosmetik.
Diagram 7.2 *shows two types of cosmetics.*



100% buatan sendiri
100% *homemade*

Dihasilkan di kilang
Produced in the factory

Rajah 7.2
Diagram 7.2

Wajarkan penggunaan kedua-dua kosmetik tersebut dalam membantu penampilan seseorang.
Justify the use of both cosmetics in helping a person's appearance.

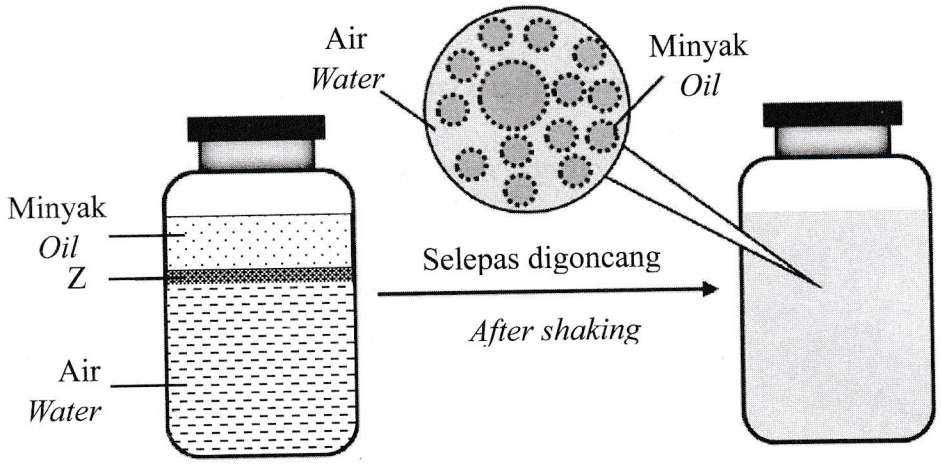
.....

.....

.....

[2 *markah* / 2 *marks*]

(*c*) Rajah 7.3 menunjukkan satu tindak balas kimia yang berlaku dalam penghasilan makanan apabila ditambah bahan tambah Z.
Diagram 7.3 *shows a chemical reaction that occurs in producing of food when food additive* Z *is added.*



Rajah 7.3
Diagram 7.3

Berdasarkan Rajah 7.3,
Based on Diagram 7.3,

(i) Nyatakan perubahan yang berlaku selepas digoncang.
State the changes that occur after shaking.

.....

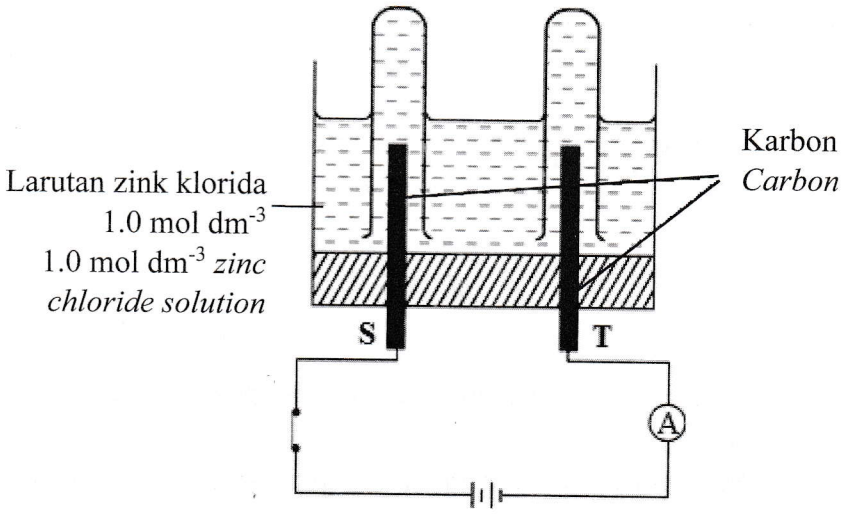
.....
[1 *markah* / 1 *mark*]

(ii) Jika diberikan pilihan antara pektin dan lecitin, bahan tambah manakah yang anda pilih untuk menghasilkan perubahan seperti dalam **7**(*c*)(i)?
If given a choice between pectin and lecithin, which additive would you choose to produce the change as in **7**(*c*)(i)?

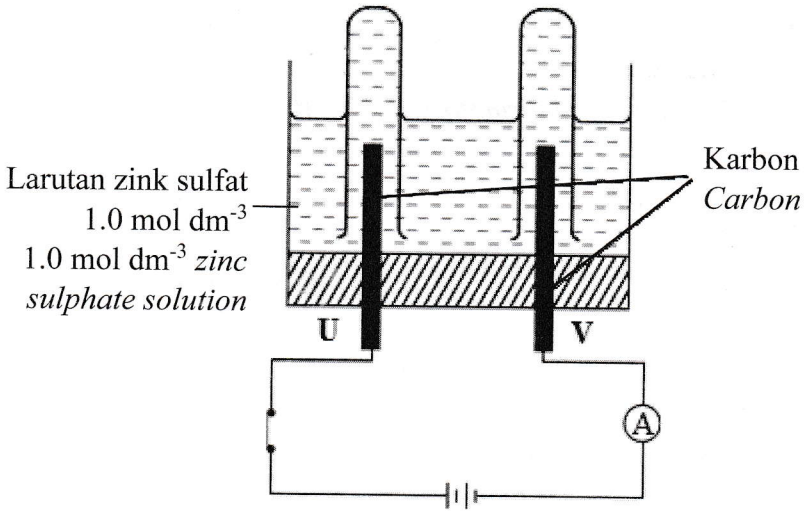
.....
[1 *markah* / 1 *mark*]

8 Rajah 8 menunjukkan elektrolisis bagi dua jenis elektrolit
Diagram 8 shows electrolysis of two types of electrolytes.

Sel I
Cell I



Sel II
Cell II



Diberi nilai keupayaan elektrod piawai seperti berikut.
Standard electrode potential are given as below.

$Cl_2 + 2e^- \rightleftharpoons 2Cl^-$	E^0	$= +1.36$ V
$O_2 + 2H_2O + 4e^- \rightleftharpoons 4OH^-$	E^0	$= +0.40$ V
$Zn^{2+} + 2e^- \rightleftharpoons Zn$	E^0	$= -0.76$ V
$2H^+ + 2e^- \rightleftharpoons H_2$	E^0	$= 0.00$ V

(*a*) Berdasarkan Rajah 8,
Based on Diagram 8,

(i) Namakan semua anion yang hadir dalam larutan zink klorida.
Name all anion presents in zinc chloride solution.

.....

[1 *markah* / 1 *mark*]

(ii) Tulis formula hasil yang terbentuk pada elektrod S.
Write the formula of the product formed at electrode S.

.....

[1 *markah* / 1 *mark*]

(iii) Terangkan jawapan anda berdasarkan pemilihan ion yang dinyahcas di **8**(*a*)(ii).
Explain your answer based on selection of ions to discharge in **8**(*a*)(ii).

.....

[1 *markah* / 1 *mark*]

(iv) Huraikan satu ujian bagi mengesahkan hasil yang terbentuk pada elektrod U.
Describe a confirmatory test for the product formed at electrode U.

.....

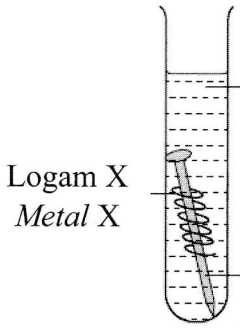
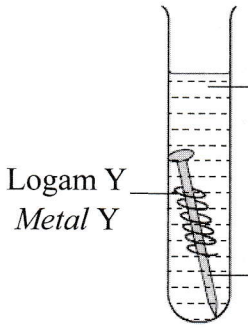
.....

.....

.....

[2 *markah* / 2 *marks*]

(*b*) Jadual 3 menunjukkan satu eksperimen untuk mengkaji kesan logam lain ke atas pengaratan paku besi.
Table 3 shows an experiment to determine the effect of other metals on rusting of iron nail.

Set	Eksperimen *Experiment*	Pemerhatian *Observation*
I		Keamatan warna merah jambu yang tinggi terbentuk *High intensity of pink colour is formed* Tiada tompokan biru tua yang terbentuk *No dark blue spot is formed*
II		Keamatan warna biru tua yang tinggi terbentuk *High intensity of dark blue colour is formed* Keamatan warna merah jambu yang rendah terbentuk *Low intensity of pink colour is formed*

Jadual 3
Table 3

Berdasarkan Jadual 3,
Based on Table 3,

(i) Terangkan perbezaan dalam pemerhatian bagi Set I dan Set II.
Explain the difference in observation of Set I *and Set* II.

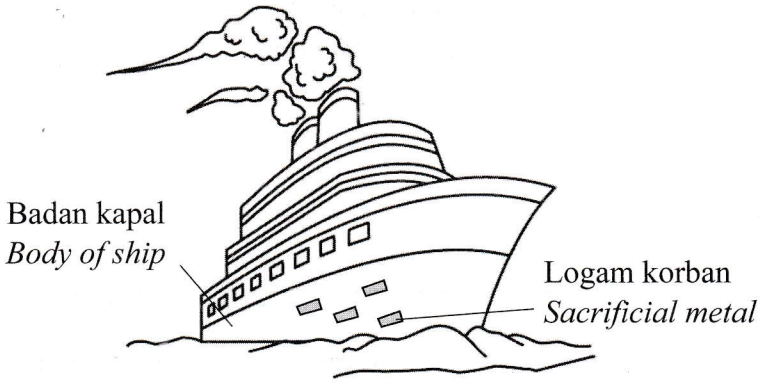
.....

.....

.....

[2 *markah* / 2 *marks*]

(ii) Rajah 8 menunjukkan logam korban yang terdapat pada badan kapal.
Diagram 8 *shows a sacrificial metal on the body of a ship.*



Rajah 8
Diagram 8

Berdasarkan jawapan anda di **8**(*b*)(i), pilih logam yang sesuai untuk dijadikan logam korban pada badan kapal.
Terangkan jawapan anda.
Based on your answer in **8**(*b*)(i), *choose a metal that suitable to be used as sacrificial metal on the body of a ship.*
Explain you answer.

.....

.....

.....

.....

[3 *markah* / 3 *marks*]

Bahagian B

[20 *markah*]

Bahagian ini mengandungi **dua** *soalan. Jawab* **satu** *soalan.*

9 (*a*) Jadual 9 menunjukkan tiga set eksperimen yang dijalankan untuk mengkaji faktor-faktor yang mempengaruhi kadar tindak balas antara zinc dengan asid hidroklorik.

Table 9 shows three sets of experiment carried out to investigate the factors that affect the rate of reaction between zinc and hydrochloric acid.

Eksperimen ***Experiment***	**Bahan tindak balas** ***Reactants***
I	Serbuk zinc berlebihan + 25 cm^3 asid hidroklorik 0.5 mol dm^{-3} *Excess zinc powder* + 25 cm^3 *of* 0.5 mol dm^{-3} *hydrochloric acid*
II	Serbuk zinc berlebihan + 25 cm^3 asid hidroklorik 1.0 mol dm^{-3} *Excess zinc powder* + 25 cm^3 *of* 1.0 mol dm^{-3} *hydrochloric acid*
III	Serbuk zinc berlebihan + 25 cm^3 asid hidroklorik 1.0 mol dm^{-3} + 10 cm^3 larutan kuprum(II) sulfat 1.0 mol dm^{-3} *Excess zinc powder* + 25 cm^3 *of* 1.0 mol dm^{-3} *hydrochloric acid* + 10 cm^3 1.0 mol dm^{-3} *copper*(II) *sulphate solution*

Jadual 9

Table 9

(i) Berdasarkan eksperimen tersebut, nyatakan maksud kadar tindak balas.

[1 *markah*]

Based on the experiment, state the meaning of rate of reaction.

[1 *mark*]

(ii) Tuliskan persamaan kimia bagi tindak balas yang berlaku antara zink dan asid hidroklorik dalam Eksperimen I. Hitung isi padu gas yang dibebaskan bagi eksperimen tersebut. Eksperimen ini mengambil masa 2 minit untuk melengkapkan tindak balas. Hitung kadar tindak balas purata dengan unit $cm^3\ s^{-1}$ bagi tindak balas ini.

[1 mol gas menempati isi padu 24.0 dm^3 pada keadaan bilik]

[6 *markah*]

Write the chemical equation for the reaction that occurred between zinc and hydrochloric acid in Experiment I. *Calculate the volume of gas released for the experiment. The experiment took* 2 *minutes to complete the reaction. Calculate the average rate of reaction in* $cm^3\ s^{-1}$ *for this reaction.*

[1 mol *of gas occupies the volume of* 24.0 dm^3 *at room condition*]

[6 *marks*]

(iii) Pada paksi yang sama, lakarkan graf isi padu gas melawan masa bagi Eksperimen I, Eksperimen II dan Eksperimen III.

[4 *markah*]

On the same axis, sketch the graph of gas volume against time for Experiment I, II *and* III.

[4 *marks*]

(iv) Bandingkan kadar tindak balas antara Eksperimen II dan Eksperimen III. Jelaskan jawapan anda berdasarkan Teori Perlanggaran.

[6 *markah*]

Compare the rate of reaction between Experiment II *and* III. *Explain your answer based on Collision Theory.*

[6 *marks*]

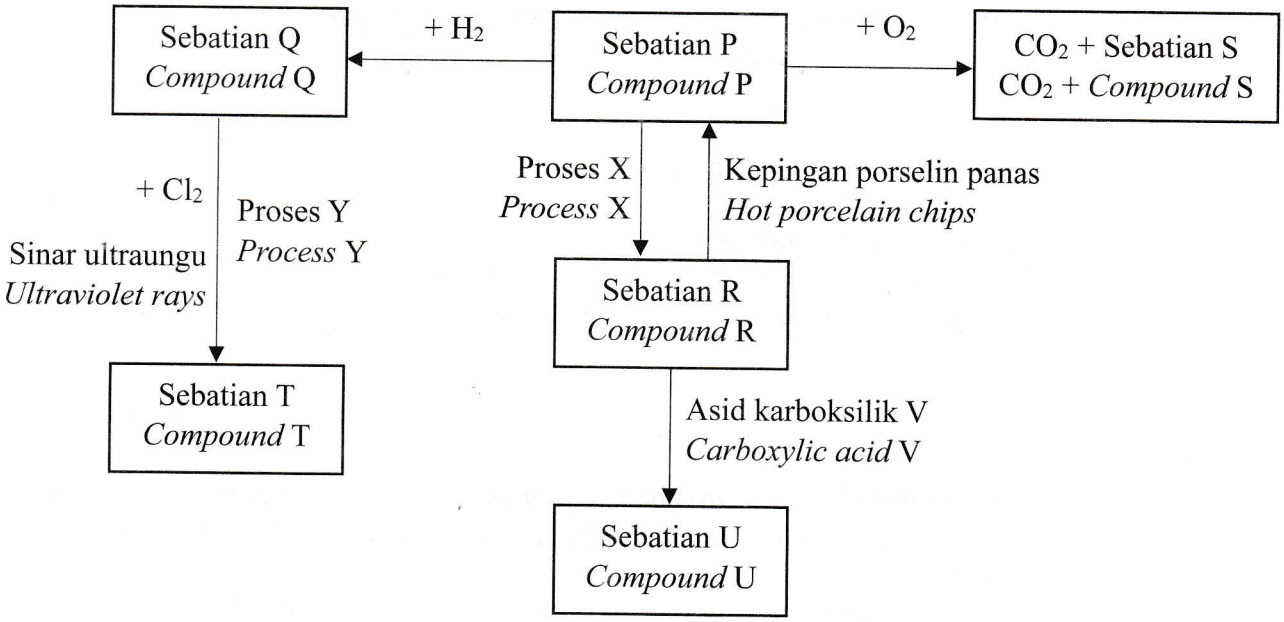
(*b*) Tablet antasid digunakan untuk merawat gastrik. Doktor menasihatkan pesakit mengunyah tetapi bukan menelan. Berikan alasan.

[3 *markah*]

Antasid tablets are used to treat gastric. Doctors advise patients to chew instead of swallowing. Give the reason.

[3 *marks*]

10 Rajah 10 menunjukkan carta alir tindak balas yang dialami oleh sebatian P. Sebatian P ialah suatu hidrokarbon tak tepu yang mempunyai empat atom karbon.
Diagram 10 *shows the flow chart for the reactions undergoes by compound* P. *Compound* P *is an unsaturated hydrocarbon that has four carbon atoms.*



Rajah 10
Diagram 10

Berdasarkan Rajah 10,
Based on Diagram 10,

(*a*) Apakah yang dimaksudkan dengan hidrokarbon?
Berikan satu contoh siri homolog bagi hidrokarbon tak tepu.

[2 *markah*]

What is meant by hydrocarbon?
Give an example of a homologous series for unsaturated hydrocarbons.

[2 *marks*]

(*b*) Kenal pasti sebatian Q, sebatian R dan sebatian S.
Namakan proses X dan proses Y.
Nyatakan kumpulan berfungsi bagi sebatian U.

[6 *markah*]

Identify compounds Q, R *and* S.
Name process X *and* Y.
State functional group of compound U.

[6 *marks*]

(*c*) Lukis dan namakan dua isomer bagi sebatian R. Sebatian P dan sebatian Q wujud sebagai gas pada keadaan bilik. Huraikan bagaimana untuk membezakan sebatian P dan sebatian Q di dalam makmal.

[7 *markah*]

Draw and name two isomers of compound R. *Compound* P *and* Q *exist as gas at room conditions. Describe how to distinguish compound* P *and* Q *that exist as gas in the laboratory.*

[7 *marks*]

(*d*) Sekumpulan murid ditugaskan untuk menyediakan sebatian U yang mempunyai perisa pisang iaitu butil etanoat. Cadangkan asid karboksilik V yang digunakan untuk menyediakan sebatian U.
Tulis persamaan kimia bagi penyediaan sebatian U.
Hitung jisim sebatian R yang akan digunakan bagi mendapatkan 2 g sebatian U.
[Jisim atom relatif: H = 1; C = 12; O = 16]

[5 *markah*]

A group of students was assigned to prepare a compound U *that has a banana flavour which is butyl ethanoate. Suggest carboxylic acid* V *used to prepare compound* U.
Write the chemical equation for the preparation of compound U.
Calculate the mass of compound R *that will be used to obtain* 2 g *of compound* U.
[*Relative atomic mass:* H = 1; C = 12; O = 16]

[5 *marks*]

Bahagian C
[20 *markah*]
Soalan ini **mesti** *dijawab*

11 (*a*) Berikut merupakan contoh tiga garam sulfat yang boleh disediakan dalam makmal.
The following are three examples of sulphate salts that can be prepared in a laboratory.

- Kalium sulfat
  Potassium sulphate
- Barium sulfat
  Barium sulphate
- Kalsium sulfat
  Calcium sulphate

(i) Kelaskan contoh-contoh garam ini kepada garam terlarutkan dan garam tak terlarutkan.

[2 *markah*]

Classify these examples of salts into soluble and insoluble salts.

[2 *marks*]

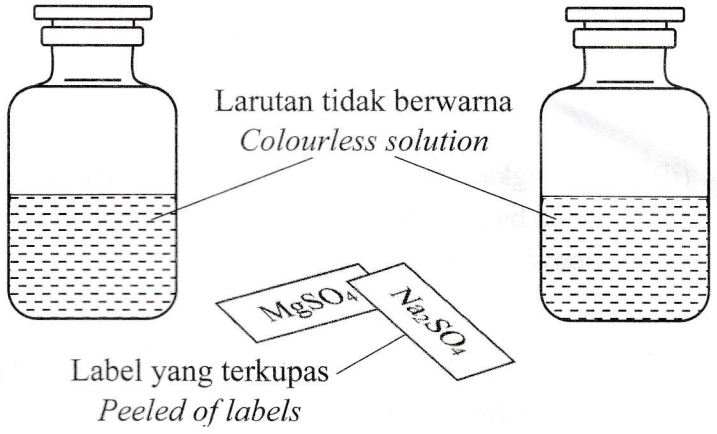
(ii) Nyatakan bahan-bahan tindak balas bagi penyediaan garam terlarutkan dalam **11**(*a*)(i).

[2 *markah*]

State the reactants for the preparation of the soluble salt in **11**(*a*)(i).

[2 *marks*]

(*b*) Rajah 11.1 menunjukkan keadaan dua botol larutan di dalam sebuah makmal.
Diagram 11.1 *shows the condition of two bottles of solution in a laboratory.*



Rajah 11.1
Diagram 11.1

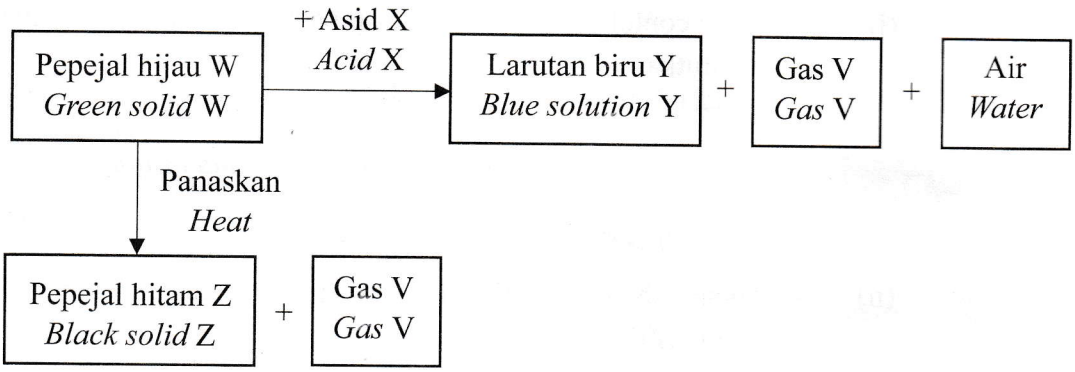
Seorang pembantu makmal ingin menampal semula label pada botol-botol ini. Beliau mengambil 2 cm^3 daripada setiap larutan dan menguji kedua-dua larutan dengan larutan ammonia. Wajarkan tindakan beliau.

[3 *markah*]

A lab assistant wanted to paste the labels back to the bottles. He took 2 cm^3 *from each solution and tested both solutions with ammonia solution. Justify his action.*

[3 *marks*]

(*c*) Rajah 11.2 menunjukkan penukaran pepejal W kepada larutan Y dan pepejal Z.
Diagram 11.2 *shows the conversion of solid* W *to solution* Y *and solid* Z.



Rajah 11.2
Diagram 11.2

Berdasarkan Rajah 11.2,
Based on Diagram 11.2,

(i) Kenalpasti bahan V, bahan W dan bahan Z.

[3 *markah*]

Identify substances V, W *and* Z.

[3 *marks*]

(ii) Cadangkan asid X untuk menyediakan larutan Y. Tulis persamaan kimia bagi tindak balas tersebut. Huraikan eksperimen makmal untuk menyediakan garam Y.

[10 *markah*]

Suggest acid X *to prepare solution* Y. *Write the chemical equation for the reaction. Describe a laboratory experiment to prepare salt* Y.

[10 *marks*]

KERTAS PEPERIKSAAN TAMAT