

Nama Tingkatan

Sekolah

MODUL PINTAS 2020
TINGKATAN 5

4541/1

CHEMISTRY

Kertas 1

September/Oktober

$1\frac{1}{4}$ jam

Satu jam lima belas minit

JANGAN BUKA KERTAS PEPERIKSAAN INI SEHINGGA DIBERITAHU

1. *Kertas peperiksaan ini adalah dalam dwibahasa.*
2. *Soalan dalam bahasa Inggeris mendahului soalan yang sepadan dalam bahasa Melayu.*
3. *Calon dikehendaki membaca maklumat di halaman belakang kertas peperiksaan ini.*

Kertas peperiksaan ini mengandungi 31 halaman bercetak dan 1 halaman tidak bercetak.

- 1 Which of the following statements correctly explains the meaning of effective collision?
Antara berikut, pernyataan manakah yang betul untuk menerangkan maksud perlanggaran berkesan?
- A The collision that has the highest energy
Perlanggaran yang mempunyai tenaga paling tinggi
 - B The collision that can causes reaction to occur
Perlanggaran yang menyebabkan tindak balas berlaku
 - C The collision which takes place before reaction
Perlanggaran yang berlaku sebelum tindak balas
 - D The collision where its energy is less than the activation energy
Perlanggaran yang mempunyai tenaga yang lebih rendah dari tenaga pengaktifan

- 2
- Potassium dichromate(VI) is commonly used as an oxidizing agent for laboratory experiment.
Kalium dikromat(VI) biasanya digunakan sebagai agen pengoksidaan untuk eksperimen di makmal.

What is the chemical formula for potassium dichromate(VI)?

Apakah formula kimia bagi kalium dikromat(VI)?

- A K_2CrO_2
 - B K_2CrO_4
 - C $K_2Cr_2O_4$
 - D $K_2Cr_2O_7$
- 3 What are the cations present in zinc sulphate solution?
Apakah kation-kation yang hadir dalam larutan zink sulfat?
- A Zn^{2+} , H^+
 - B Zn^{2+} , SO_4^{2-}
 - C OH^- , SO_4^{2-}
 - D Zn^{2+} , H^+ , OH^- , SO_4^{2-}

- 4 Which of the following substances is a monoprotic acid?
Antara berikut, bahan manakah merupakan asid monoprotik?
- A Carbonic acid, H_2CO_3
Asid karbonik, H_2CO_3
- B Sulphuric acid, H_2SO_4
Asid sulfurik, H_2SO_4
- C Phosphoric acid, H_3PO_4
Asid fosforik, H_3PO_4
- D Propanoic acid, $\text{C}_2\text{H}_5\text{COOH}$
Asid propanoik, $\text{C}_2\text{H}_5\text{COOH}$
- 5 Which salt is insoluble in water?
Garam manakah yang tidak larut dalam air?
- A Silver nitrate
Argentum nitrat
- B Zinc chloride
Zink klorida
- C Calcium sulphate
Kalsium sulfat
- D Sodium carbonate
Natrium karbonat
- 6 What are formed when glucose is undergoes fermentation process?
Apakah yang terbentuk apabila glukosa melalui proses penapaian?
- A Ethene and oxygen
Etena dan oksigen
- B Ethene and carbon dioxide
Etena dan karbon dioksida
- C Ethanol and oxygen
Etanol dan oksigen
- D Ethanol and carbon dioxide
Etanol dan karbon dioksida

- 7 Diagram 1 shows the set-up of apparatus to determine the empirical formula of a metal oxide.
Rajah 1 menunjukkan susunan radas untuk menentukan formula empirik bagi satu logam oksida.

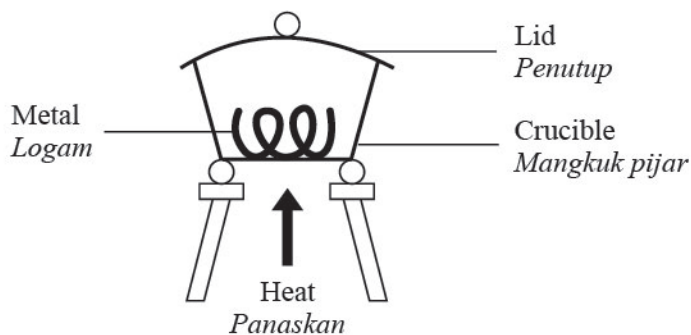


Diagram 1
Rajah 1

Which of the following metal is suitable to be used in the experiment?

Antara berikut, logam manakah yang sesuai digunakan dalam eksperimen tersebut?

- A Lead
Plumbum
- B Copper
Kuprum
- C Stanum
Timah
- D Aluminium
Aluminium
- 8 Which of the following is an alkali metal?
Antara berikut, yang manakah adalah satu logam alkali?
- A Helium
Helium
- B Lithium
Litium
- C Calcium
Kalsium
- D Magnesium
Magnesium

- 9 Which of the following compounds have electrostatic forces between the particles?
Antara yang berikut, sebatian manakah mempunyai daya elektrostatik di antara zarah-zarah?
- A Iodine
Iodin
- B Naphthalene
Naftalena
- C Potassium iodide
Kalium iodida
- D Ammonia
Ammonia
- 10 Which of the following are the similarities of isotopes of elements?
Antara yang berikut, yang manakah adalah persamaan bagi isotop suatu unsur?
- I Number of protons
Bilangan proton
- II Number of neutrons
Bilangan neutron
- III Chemical properties
Sifat-sifat kimia
- IV Physical properties
Sifat-sifat fizikal
- A I and II
I dan II
- B I and III
I dan III
- C II and IV
II dan IV
- D III and IV
III dan IV

- 11 What is the colour of aqueous ammonia when added with a few drops of methyl orange solution?
Apakah warna akueus ammonia apabila ditambahkan dengan beberapa titis larutan metil jingga?
- A Pink
Merah jambu
- B Orange
Jingga
- C Yellow
Kuning
- D Remain colourless
Kekal tak bewarna
- 12 Diagram 2 shows one of the stages in the production of sulphuric acid using the Contact Process.
Rajah 2 menunjukkan salah satu peringkat dalam pembuatan asid sulfurik menggunakan Proses Sentuh.

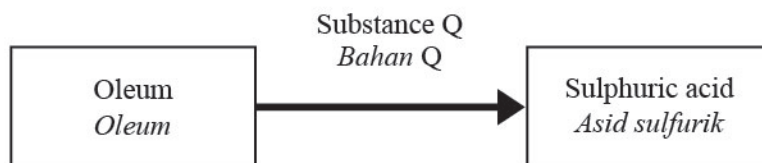


Diagram 2
Rajah 2

What is substance Q?

Apakah bahan Q?

- A Sulphur
Sulfur
- B Water
Air
- C Oxygen
Oksigen
- D Sulphur dioxide
Sulfur dioksida

- 13 Diagram 3 shows a structural formula of a compound that is used as an artificial banana flavouring.

Rajah 3 menunjukkan formula struktur bagi suatu sebatian yang digunakan sebagai perisa pisang tiruan.

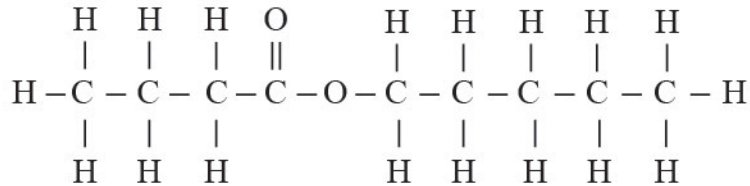


Diagram 3
Rajah 3

What is the name of the compound?

Apakah nama bagi sebatian tersebut?

- A Propyl butanoate
Propil butanoat
- B Butyl pentanoate
Butil pentanoat
- C Butyl propanoate
Butil propanoat
- D Pentyl butanoate
Pentil butanoat
- 14 Which substance forms yellow precipitate when added to lead(II) nitrate solution?
Bahan manakah membentuk mendakan kuning apabila ditambahkan kepada larutan plumbum(II) nitrat?
- A Sodium chloride
Natrium klorida
- B Sodium carbonate
Natrium karbonat
- C Potassium iodide
Kalium iodida
- D Potassium sulphate
Kalium sulfat

- 15 What is the oxidation number of oxygen gas, O₂?
Apakah nombor pengoksidaan bagi gas oksigen, O₂?

A 0
B -1
C -2
D +1

- 16 The following chemical equation represents the reaction of the formation of silver chloride precipitate.
Persamaan kimia berikut mewakili tindak balas bagi pembentukan mendakan argentum klorida.



Which of the following statements is true for the reaction?

Antara berikut, pernyataan manakah yang betul tentang tindak balas tersebut?

- A Heat is absorbed
Haba diserap
- B Chemical bond is broken
Ikatan kimia dipecahkan
- C Temperature of surroundings decreases
Suhu persekitaran menurun
- D Total energy content of reactant is higher than total energy content of product
Jumlah kandungan tenaga bahan tindak balas lebih tinggi daripada jumlah kandungan tenaga hasil tindak balas
- 17 Why sodium chloride is used in the preparation of soap?
Mengapakah natrium klorida digunakan dalam penyediaan sabun?
- A To make soap softer
Untuk menjadikan sabun lebih lembut
- B To produce soap which foams easily
Untuk menghasilkan sabun yang berbuih dengan mudah
- C To reduce solubility of soap
Untuk mengurangkan keterlarutan sabun
- D To speed up the reaction to produce soap
Untuk mempercepatkan tindak balas untuk menghasilkan sabun

- 18 Diagram 4 shows a graph of temperature against time for the heating of solid Q.

Rajah 4 menunjukkan graf suhu melawan masa bagi pemanasan pepejal Q.

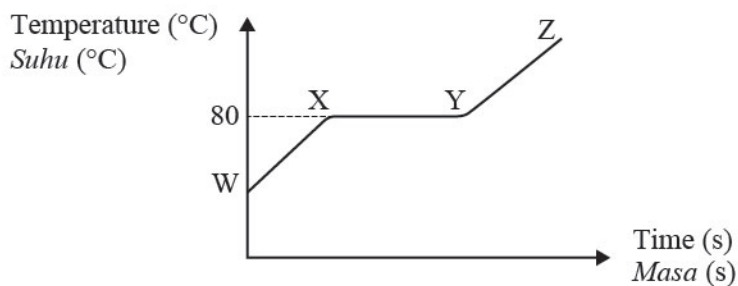


Diagram 4
Rajah 4

Which of the following statements is true?

Antara berikut, pernyataan manakah yang benar?

- A Solid Q starts to melt at X
Pepejal Q mula melebur pada X
- B Heat is released at WX
Haba dibebaskan pada WX
- C Kinetic energy is low at Y
Tenaga kinetik adalah rendah pada Y
- D The particles are very far apart from each other at Z
Zarah-zarah adalah sangat berjauhan antara satu sama lain pada Z
- 19 Which of the following contains 6.02×10^{23} atoms?
Yang manakah antara berikut mengandungi 6.02×10^{23} atom?
- A 1 mole of water
1 mol air
- B 1 mole of neon
1 mol neon
- C 1 mole of ammonia
1 mol ammonia
- D 1 mole of nitrogen gas
1 mol gas nitrogen

- 22 Diagram 5 shows the apparatus set-up to investigate the redox reaction involving transfer of electrons at a distance.

Rajah 5 menunjukkan susunan radas untuk mengkaji tindak balas redoks yang melibatkan pemindahan elektron pada satu jarak.

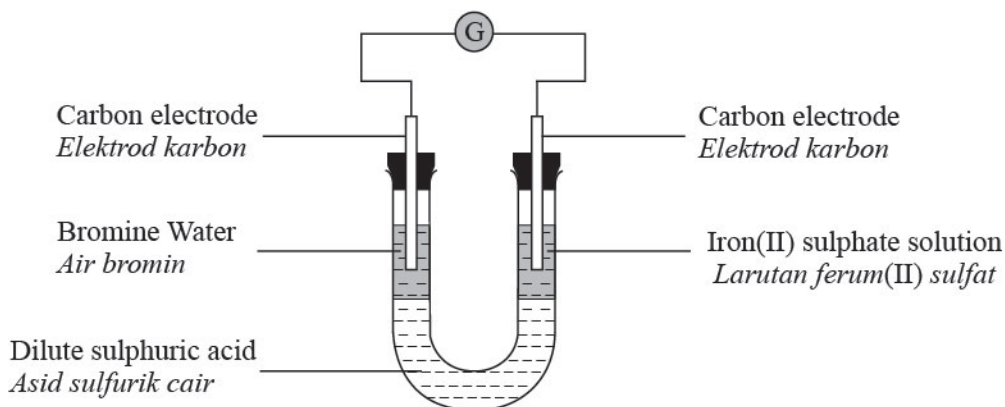


Diagram 5
Rajah 5

Which of the following is correct?

Antara berikut yang manakah betul?

	Oxidation Process <i>Proses Pengoksidaan</i>	Reduction Process <i>Proses Penurunan</i>	Oxidizing Agent <i>Agen Pengoksidaan</i>
A	Bromine water <i>Air bromin</i>	Iron(II) sulphate <i>Ferum(II) sulfat</i>	Iron(II) sulphate <i>Ferum(II) sulfat</i>
B	Iron(II) sulphate <i>Ferum(II) sulfat</i>	Bromine water <i>Air bromin</i>	Bromine water <i>Air bromin</i>
C	Bromine water <i>Air bromin</i>	Iron(II) sulphate <i>Ferum(II) sulfat</i>	Bromine water <i>Air bromin</i>
D	Iron(II) sulphate <i>Ferum(II) sulfat</i>	Bromine water <i>Air bromin</i>	Iron(II) sulphate <i>Ferum(II) sulfat</i>

- 23 Diagram 6 shows a simple chemical cell. Two different metals are used as electrodes.
Rajah 6 menunjukkan satu sel kimia ringkas. Dua logam yang berlainan digunakan sebagai elektrod.

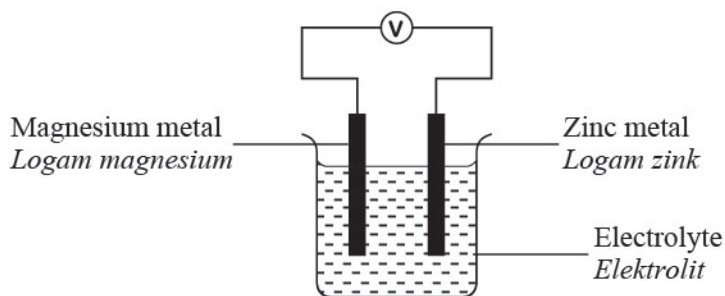


Diagram 6
Rajah 6

Which metal can be used to replace zinc metal to obtain the highest voltage reading?

Logam yang manakah boleh menggantikan logam zink untuk memperolehi bacaan voltan yang paling tinggi?

- | | | | |
|----------|-----------------------|----------|---------------------------|
| A | Tin
<i>Stannum</i> | B | Silver
<i>Argentum</i> |
| C | Iron
<i>Ferum</i> | D | Lead
<i>Plumbum</i> |

- 24 Diagram 7 shows the apparatus set-up to investigate the effect of heat on salt.
Rajah 7 menunjukkan susunan radas untuk mengkaji kesan haba ke atas garam.

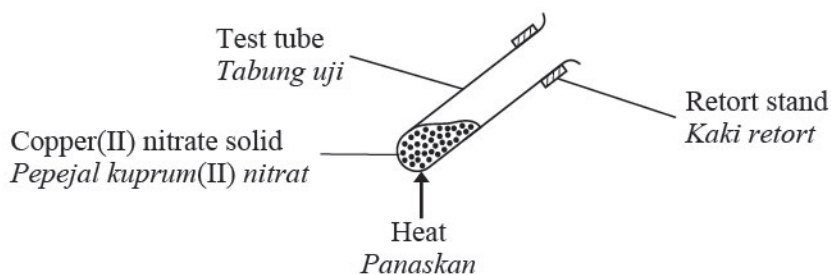


Diagram 7
Rajah 7

Which observation is correct?

Pemerhatian manakah yang betul?

- | | | | |
|----------|---|----------|--|
| A | Brown solid formed
<i>Pepejal perang terbentuk</i> | B | Brown gas released
<i>Gas perang terbebas</i> |
| C | White fume produced
<i>Wasap putih terhasil</i> | D | Colourless liquid formed
<i>Cecair tidak berwarna terbentuk</i> |

- 25 Diagram 8 shows the graph of volume of carbon dioxide gas against time when 5 g of marble chips is added to 50 cm³ of 0.2 mol dm⁻³ hydrochloric acid.

Rajah 8 menunjukkan graf isi padu gas karbon dioksida melawan masa apabila 5 g serpihan marmar ditambah kepada 50 cm³ 0.2 mol dm⁻³ asid hidroklorik.

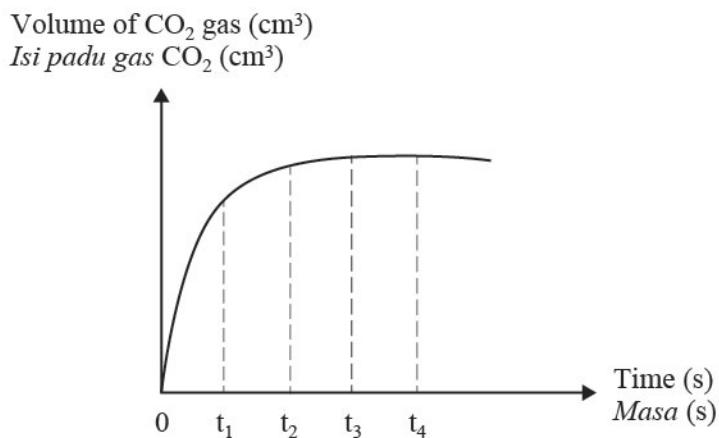


Diagram 8
Rajah 8

At what time the rate of reaction the highest?

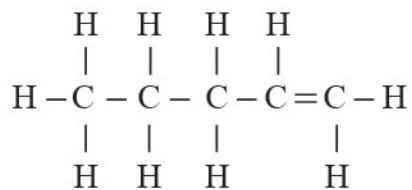
Pada masa apakah kadar tindak balas paling tinggi?

- A t₁
- B t₂
- C t₃
- D t₄

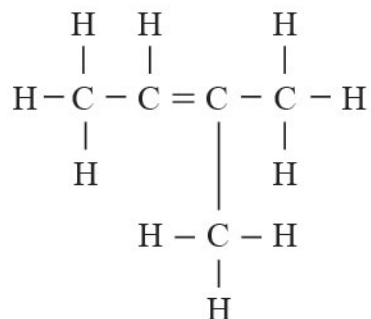
26 Which of the following are isomers of pentane?

Antara berikut, yang manakah isomer-isomer bagi pentana?

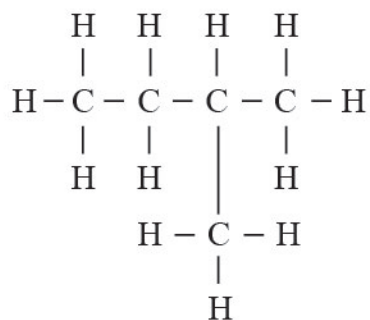
I



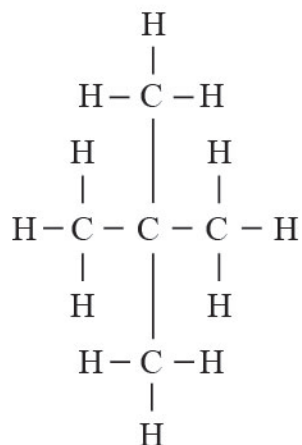
II



III



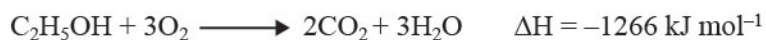
IV



- A I and II
I dan II
- B I and III
I dan III
- C II and IV
II dan IV
- D III and IV
III dan IV

27 The following equation shows a combustion reaction of ethanol.

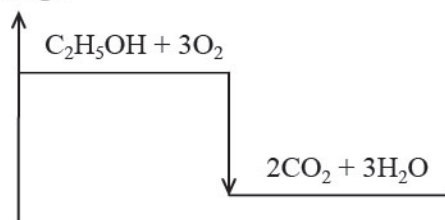
Persamaan berikut menunjukkan tindak balas pembakaran etanol.



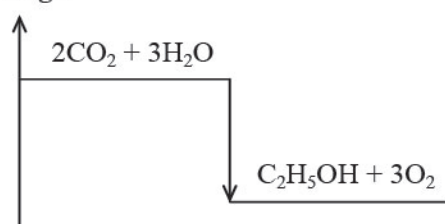
Which of the following energy level diagrams represents the reaction?

Antara berikut, gambar rajah aras tenaga yang manakah mewakili tindak balas itu?

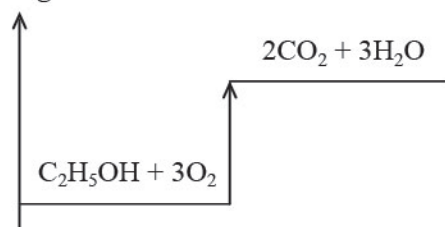
A Energy
Tenaga



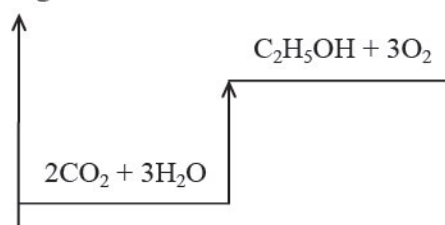
B Energy
Tenaga



C Energy
Tenaga



D Energy
Tenaga



28 Diagram 9 shows the structure of a palmitate ion.

Rajah 9 menunjukkan struktur ion palmitat.

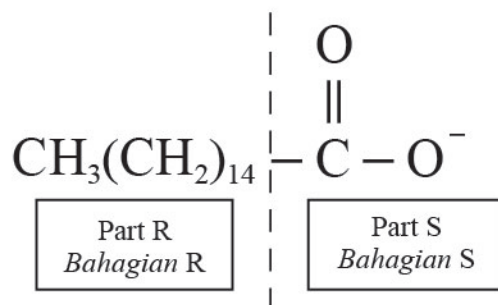


Diagram 9

Rajah 9

Which of the following statements is true?

Antara berikut, pernyataan manakah yang benar?

- A** Part R and S are soluble in water
Bahagian R dan S larut dalam air
- B** Part R and S are soluble in grease
Bahagian R dan S larut dalam gris
- C** Part R is soluble in grease and part S is soluble in water
Bahagian R larut dalam gris dan bahagian S larut dalam air
- D** Part R is soluble in water and part S is soluble in grease
Bahagian R larut dalam air dan bahagian S larut dalam gris

- 29 Diagram 10 shows the observation when zinc strip reacts with nitric acid.
Rajah 10 menunjukkan pemerhatian apabila jalur zink bertindak balas dengan asid nitrik.

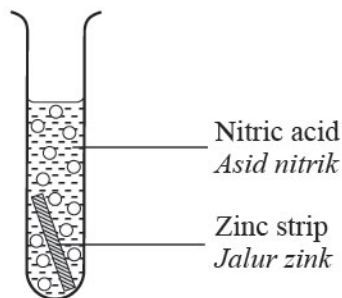


Diagram 10
Rajah 10

Which metal is suitable to replace zinc to produce the most gas bubbles?

Logam yang manakah sesuai bagi menggantikan zink untuk menghasilkan gelembung gas yang paling banyak?

- A Copper
Kuprum
- B Silver
Argentum
- C Magnesium
Magnesium
- D Aluminium
Aluminium
- 30 The reaction between aluminium and copper(II) oxide produce copper and substance X. What is the chemical formula of X?
Tindak balas antara aluminium dengan kuprum(II) oksida menghasilkan kuprum dan bahan X. Apakah formula kimia bagi X?
- A AlO
- B AlO₂
- C Al₂O₃
- D Al₃O₂

- 31 Diagram 11 shows the apparatus set-up for the electrolysis of 0.1 mol dm^{-3} copper(II) sulphate solution.

Rajah 11 menunjukkan susunan radas bagi elektrolisis larutan kuprum(II) sulfat 0.1 mol dm^{-3} .

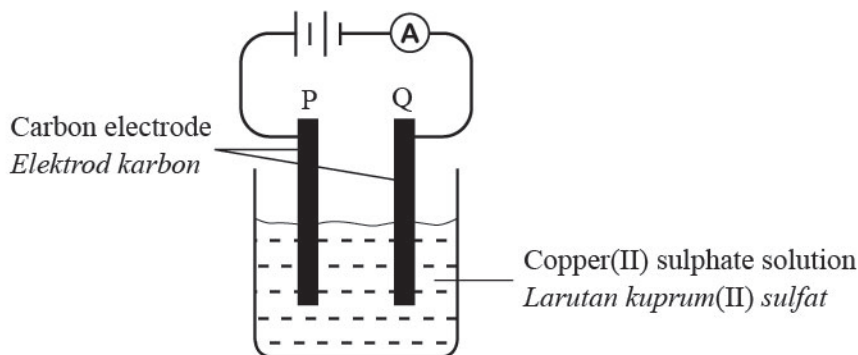


Diagram 11

Rajah 11

What would be observed when the electrical current is allowed to flow for 30 minutes?

Apakah yang diperhatikan apabila arus elektrik dibenarkan untuk dialirkan selama 30 minit?

- A Electrode Q become smaller
Elektrod Q semakin kecil
- B Brown solid is deposited at electrode P
Pepejal perang terenal pada elektrod P
- C Bubbles of gas are produced at electrode Q
Gelembung gas terhasil pada elektrod Q
- D The intensity of blue colour of the solution decreasing
Keamatan warna biru larutan semakin berkurang

- 32 Diagram 12 shows two volumetric flasks containing solutions of sulphuric acid and HX acid.
Rajah 12 menunjukkan dua kelalang volumetrik mengandungi larutan asid sulfurik dan asid HX.

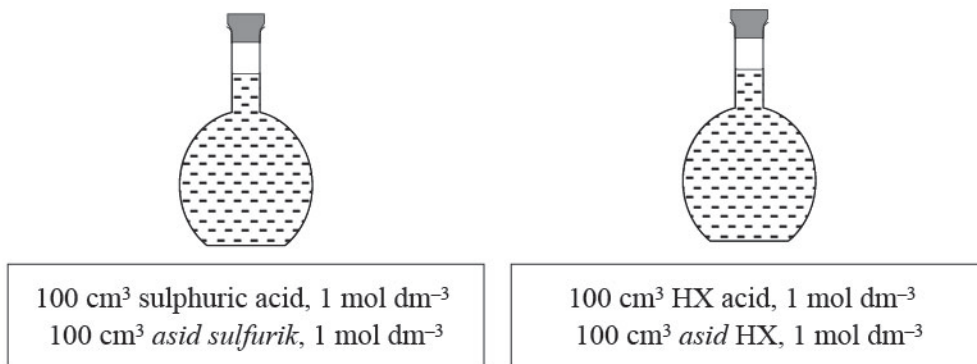


Diagram 12
Rajah 12

Why is the concentration of hydrogen ions in sulphuric acid higher than in HX acid?

Mengapakah kepekatan ion hidrogen dalam asid sulfurik lebih tinggi daripada dalam asid HX?

- A Sulphuric acid is a monoprotic acid
Asid sulfurik ialah asid monobes
- B Sulphuric acid is a diprotic acid
Asid sulfurik ialah asid dwibes
- C Sulphuric acid is a stronger acid
Asid sulfurik ialah asid yang lebih kuat
- D Sulphuric acid is slightly soluble in water
Asid sulfurik larut sedikit dalam air

35 Diagram 14 shows the rusting process of iron.

Rajah 14 menunjukkan proses pengaratan besi.

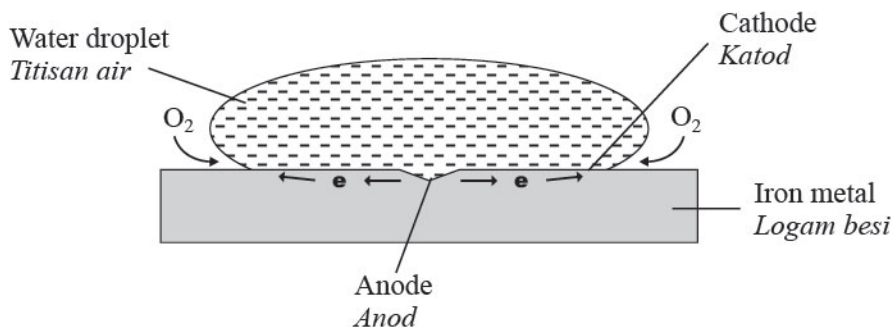
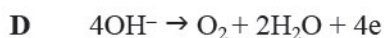
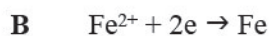
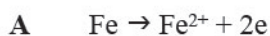


Diagram 14
Rajah 14

Which of the following equations occurs at the cathode?

Antara berikut persamaan manakah berlaku di katod?



36 A student carries out an experiment to determine the heat of combustion of propanol. Which of the following information does he need in order to calculate the heat of combustion?

Seorang murid menjalankan eksperimen untuk menentukan haba pembakaran propanol. Antara berikut, maklumat apakah yang diperlukan untuk mengira haba pembakaran?

I Mass of water

Jisim air

II Volume of propanol

Isi padu propanol

III Highest temperature of water

Suhu tertinggi air

IV Initial temperature of propanol

Suhu awal propanol

A I and II

B I and III

I dan II

I dan III

C II and IV

D III and IV

II dan IV

III dan IV

- 37 A concentrated potassium bromide solution is electrolysed using carbon electrodes. Which are the half equation that represent the reactions at the anode and the cathode?

Larutan kalium bromida pekat dielektrolisiskan menggunakan elektrod karbon.

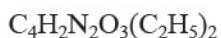
Persamaan setengah manakah yang mewakili tindak balas di anod dan di katod?

	Anode <i>Anod</i>	Cathode <i>Katod</i>
A	$2\text{Br}^- \rightarrow \text{Br}_2 + 2\text{e}$	$2\text{H}^+ + 2\text{e} \rightarrow \text{H}_2$
B	$2\text{Br}^- \rightarrow \text{Br}_2 + 2\text{e}$	$\text{K}^+ + \text{e} \rightarrow \text{K}$
C	$4\text{OH}^- \rightarrow \text{O}_2 + 2\text{H}_2\text{O} + 4\text{e}$	$\text{K}^+ + \text{e} \rightarrow \text{K}$
D	$4\text{OH}^- \rightarrow \text{O}_2 + 2\text{H}_2\text{O} + 4\text{e}$	$2\text{H}^+ + 2\text{e} \rightarrow \text{H}_2$

- 38 Veronal is a barbiturate used to induce sleep in psychiatric patients. The molecular formula of veronal is shown in the diagram below.

Veronal ialah ubat barbiturat yang digunakan untuk merangsang pesakit mental untuk tidur.

Formula molekul bagi veronal ditunjukkan dalam rajah di bawah.



Determine the relative molecular mass of veronal.

[Relative atomic mass : H = 1, C = 12, N = 14, O = 16]

Tentukan jisim molekul relatif bagi veronal.

[*Jisim atom relatif*: H = 1, C = 12, N = 14, O = 16]

- A 160
 B 184
 C 186
 D 196

- 39 The following equation represents the reaction between copper(II) oxide and nitric acid.
Persamaan berikut mewakili tindak balas antara kuprum(II) oksida dan asid nitrik.



Calculate the mass of copper(II) nitrate formed when 6.4 g of copper(II) oxide powder reacts with excess nitric acid.

[Relative atomic mass : Cu = 64, N = 14, O = 16]

Hitung jisim kuprum(II) nitrat yang terbentuk apabila 6.4 g serbuk kuprum(II) oksida bertindak balas dengan asid nitrik berlebihan.

[*Jisim atom relatif* : Cu = 64, N = 14, O = 16]

- A 14.04 g
 B 14.96 g
 C 15.04 g
 D 17.52 g
- 40 Professional cyclist usually fill their bicycle tyres with gas X which makes the bicycle lighter.
Pelumba profesional biasanya mengisi tayar basikal dengan gas X yang membuatkan basikal lebih ringan.

D									A
						C			
							B		

Which element **A**, **B**, **C** or **D** in the Periodic Table of Elements is suitable to be used in bicycle tyres?

*Antara unsur **A**, **B**, **C** dan **D** dalam Jadual Berkala Unsur, yang manakah sesuai digunakan dalam tayar basikal?*

- 43 20 cm³ of 0.5 mol dm⁻³ sodium hydroxide solution is completely neutralised by two different strong acids, HX acid and H₂Y acid. The concentration of both acids is 0.5 mol dm⁻³. What is the volume of HX acid and H₂Y acid used?

20 cm³ larutan natrium hidroksida 0.5 mol dm⁻³ dineutralkan dengan lengkap oleh dua asid kuat yang berbeza iaitu asid HX dan asid H₂Y. Kepekatan kedua-dua asid ialah 0.5 mol dm⁻³. Berapakah isi padu asid HX dan asid H₂Y yang digunakan?

	HX acid <i>Asid HX</i>	H₂Y acid <i>Asid H₂Y</i>
A	10 cm ³	10 cm ³
B	20 cm ³	10 cm ³
C	10 cm ³	20 cm ³
D	20 cm ³	20 cm ³

- 44 Which of the following substances are suitable to prepare copper(II) chloride?
Antara berikut, bahan-bahan manakah yang sesuai untuk menyediakan kuprum(II) klorida?
- I Copper metal and hydrochloric acid
Logam kuprum dan asid hidroklorik
- II Copper(II) nitrate and sodium chloride
Kuprum(II) nitrat dan natrium klorida
- III Copper(II) oxide and hydrochloric acid
Kuprum(II) oksida dan asid hidroklorik
- IV Copper(II) carbonate and hydrochloric acid
Kuprum(II) karbonat dan asid hidroklorik
- A** I and II
I dan II
- B** I and III
I dan III
- C** II and IV
II dan IV
- D** III and IV
III dan IV

- 45 Table 4 shows experiments carried out to study the rate of reaction between zinc carbonate and nitric acid.

Jadual 4 menunjukkan eksperimen yang dijalankan bagi mengkaji kadar tindak balas di antara zink karbonat dan asid nitrik.

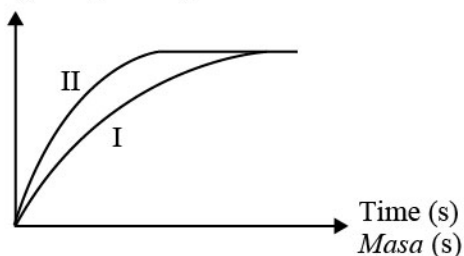
Experiment <i>Eksperimen</i>	Zinc carbonate, ZnCO_3 <i>Zink karbonat, ZnCO_3</i>		Nitric acid, HNO_3 <i>Asid nitrik, HNO_3</i>	
	Mass (g) <i>Jisim (g)</i>	State <i>Keadaan</i>	Volume (cm^3) <i>Isi padu (cm^3)</i>	Concentration (mol dm^{-3}) <i>Kepekatan (mol dm^{-3})</i>
I	5	Granule <i>Ketulan</i>	50	0.1
II	5	Powder <i>Serbuk</i>	25	0.2

Table 4
Jadual 4

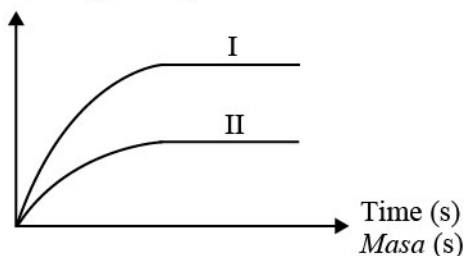
Which of the following graph represents the two experiments?

Antara berikut, graf manakah mewakili kedua-dua eksperimen?

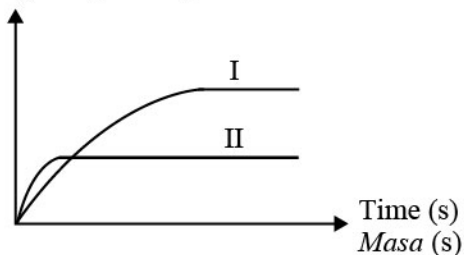
A Volume of CO_2 gas cm^3
Isi padu gas CO_2 cm^3



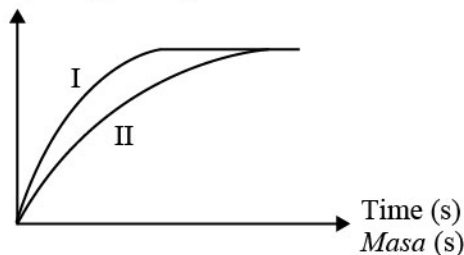
B Volume of CO_2 gas cm^3
Isi padu gas CO_2 cm^3



C Volume of CO_2 gas cm^3
Isi padu gas CO_2 cm^3



D Volume of CO_2 gas cm^3
Isi padu gas CO_2 cm^3



- 46 Which of the following hydrocarbons is most suitable to be used as cooking gas?
[Relative atomic mass : H = 1, C = 12]

Antara berikut, hidrokarbon manakah yang paling sesuai digunakan sebagai gas memasak?

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

- A C₃H₆
- B C₄H₈
- C C₄H₁₀
- D C₆H₆

- 47 The following chemical equation shows the reaction between copper(II) oxide and sulphuric acid.

Persamaan kimia berikut menunjukkan tindak balas antara kuprum(II) oksida dan asid sulfurik.



6.0 g copper(II) oxide is added to 50.0 cm³ of 1.0 mol dm⁻³ sulphuric acid.

What is the mass of copper(II) oxide left at the end of the reaction?

[Relative atomic mass : Cu = 64, O = 16]

6.0 g kuprum(II) oksida ditambahkan kepada 50.0 cm³ asid sulfurik 1.0 mol dm⁻³.

Apakah jisim kuprum(II) oksida yang tinggal pada akhir tindak balas?

[Jisim atom relatif : Cu = 64, O = 16]

- A 0.3 g
- B 2.0 g
- C 2.8 g
- D 4.0 g

48 Diagram 16 shows the preparation of lead(II) chloride salt.

Rajah 16 menunjukkan penyediaan garam plumbum(II) klorida.

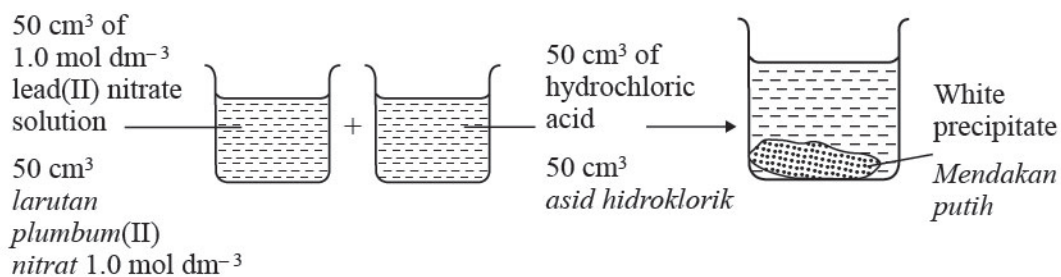


Diagram 16
Rajah 16

What is the concentration of the hydrochloric acid needed to react completely with lead(II) nitrate solution?

Berapakah kepekatan larutan asid hidroklorik yang diperlukan untuk bertindak balas lengkap dengan larutan plumbum(II) nitrat?

- A 0.5 mol dm⁻³
- B 1.0 mol dm⁻³
- C 1.5 mol dm⁻³
- D 2.0 mol dm⁻³

- 49 Diagram 17 shows the thermometer readings when excess magnesium powder is added to 50 cm^3 of 0.5 mol dm^{-3} copper(II) chloride solution in polystyrene cup.

Rajah 17 menunjukkan bacaan termometer apabila serbuk magnesium berlebihan ditambah kepada 50 cm^3 larutan kuprum(II) klorida 0.5 mol dm^{-3} dalam cawan polistirena.

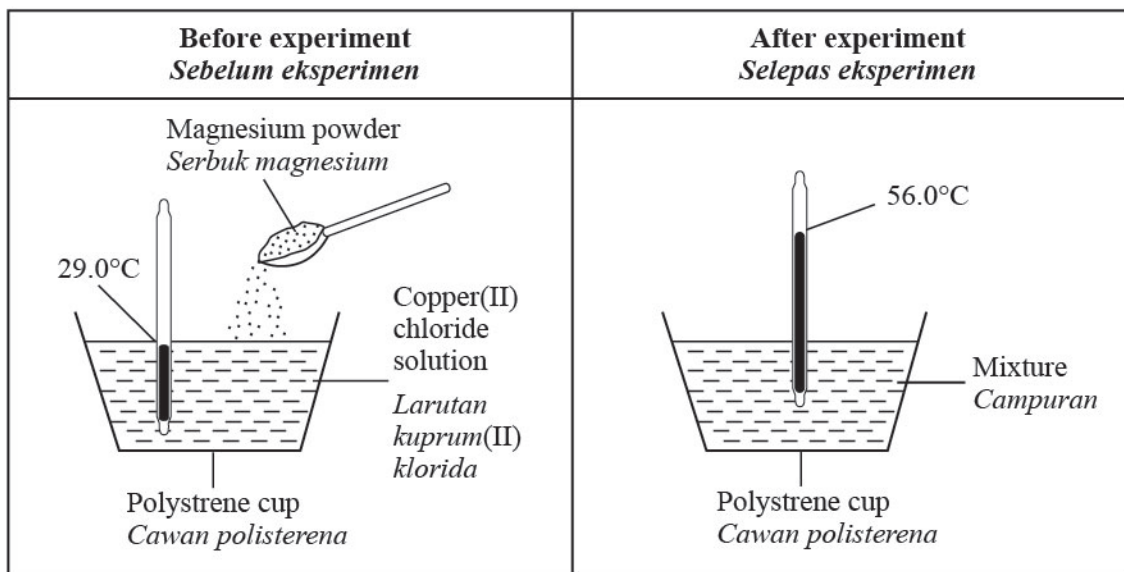


Diagram 17
Rajah 17

What is the heat of displacement for the reaction?

[Specific heat capacity of water = $4.2 \text{ J g}^{-1} \text{ }^\circ\text{C}^{-1}$; Density of water = 1.0 g cm^{-3}]

Berapakah haba penyesaran bagi tindak balas ini?

[Muatan haba tentu air = $4.2 \text{ J g}^{-1} \text{ }^\circ\text{C}^{-1}$; Ketumpatan air = 1.0 g cm^{-3}]

- A $-226.8 \text{ kJ mol}^{-1}$
- B $-243.6 \text{ kJ mol}^{-1}$
- C $-470.4 \text{ kJ mol}^{-1}$
- D $-5670.0 \text{ kJ mol}^{-1}$

- 50 Diagram 18 shows a plant. It can be used as traditional medicine.
Rajah 18 menunjukkan satu tumbuhan. Ia boleh digunakan sebagai ubat tradisional.



Diagram 18
Rajah 18

Which of parts P, Q, R and S is used as the main source of medicine and how it is used to treat illness?

Antara bahagian P, Q, R dan S yang manakah digunakan sebagai sumber utama ubat dan bagaimanakah ia digunakan untuk merawat penyakit?

	Part of plant <i>Bahagian tumbuhan</i>	Method <i>Kaedah</i>
A	P	Boiled with water and rub on the body <i>Rebus dengan air dan sapu pada badan</i>
B	Q	Boiled with water and rub on the body <i>Rebus dengan air dan sapu pada badan</i>
C	R	Extract the juice and drink <i>Ekstrak jus dan minum</i>
D	S	Extract the juice and drink <i>Ekstrak jus dan minum</i>

END OF QUESTION PAPER
KERTAS PEPERIKSAAN TAMAT

INFORMATION FOR CANDIDATES
MAKLUMAT UNTUK CALON

1. This question paper consists of **50** questions.
Kertas peperiksaan ini mengandungi 50 soalan.
2. Answer **all** questions.
Jawab semua soalan.
3. Each question is followed by four alternative answers, **A, B, C** or **D**. For each question, choose **one** answer only. **Blacken** your answer on the objective answer sheet provided.
*Tiap-tiap soalan diikuti oleh empat pilihan jawapan, iaitu **A, B, C** dan **D**. Bagi setiap soalan, pilih satu jawapan sahaja. **Hitamkan** jawapan anda pada kertas jawapan objektif yang disediakan.*
4. If you wish to change your answer, erase blackened mark that you have made. Then blacken the new answer.
Sekiranya anda hendak menukar jawapan, padamkan tanda yang telah dibuat. Kemudian hitamkan jawapan yang baharu.
5. The diagrams in the questions provided are not drawn to scale unless stated.
Rajah yang mengiringi soalan tidak dilukis mengikut skala kecuali dinyatakan.
6. You may use a scientific calculator.
Anda dibenarkan menggunakan kalkulator saintifik.