



**MAJLIS PENGETUA SEKOLAH MALAYSIA  
NEGERI SELANGOR**

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**PENILAIAN INTERVENSI TERBILANG AKADEMIK SELANGOR (PINTAS) 2026  
KIMIA TINGKATAN 5**

**Kertas 1**

1 jam 15 minit

**4541/1**

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**JANGAN BUKA KERTAS PEPERIKSAAN INI SEHINGGA DIBERITAHU**

**ARAHAN:**

1. Kertas peperiksaan ini adalah dalam dwibahasa.
2. Soalan dalam bahasa Melayu mendahului soalan yang sepadan dalam bahasa Inggeris.

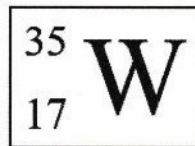
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Kertas peperiksaan ini mengandungi **23** halaman bercetak dan **1** halaman tidak bercetak.

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**[Lihat halaman sebelah  
SULIT**

- 1 Bahan yang manakah merupakan jirim?  
*Which substance is a matter?*
- A Haba / *Heat*
  - B Air / *Water*
  - C Cahaya / *Light*
  - D Bunyi / *Sound*
- 2 Antara tindak balas berikut, yang manakah mempunyai kadar tindak balas yang paling rendah?  
*Which of the following reactions has the lowest rate of reaction?*
- A Pengaratan pagar besi  
*The rusting of an iron gate*
  - B Pembakaran pita magnesium  
*The combustion of magnesium ribbon*
  - C Tindak balas antara asid hidroklorik dengan zink  
*The reaction between hydrochloric acid and zinc*
  - D Tindak balas peneutralan antara asid dan alkali  
*The neutralisation reaction between an acid and an alkali*
- 3 Rajah 1 menunjukkan perwakilan piawai bagi unsur W.  
*Diagram 1 shows the standard representation of element W.*

Rajah 1 / *Diagram 1*

- Antara yang berikut, yang manakah benar tentang W?  
*Which of the following is true about W?*
- A Atom W mempunyai 18 neutron  
*Atom W has 18 neutrons*
  - B Susunan elektron bagi atom W ialah 2.7  
*The electron arrangement of atom W is 2.7*
  - C W wujud dalam keadaan pepejal pada suhu bilik  
*W exists as solid at room temperature*
  - D W berada dalam Kumpulan 7 dan Kala 3 dalam Jadual Berkala Unsur  
*W is in Group 7 and Period 3 in the Periodic Table of Elements*

- 4 Antara berikut yang manakah berlaku dalam tindak balas pengoksidaan?  
*Which of the following occurs in oxidation reaction?*
- A Kehilangan oksigen / *Loss oxygen*
  - B Kehilangan elektron / *Loss electron*
  - C Penambahan hidrogen / *Gain hydrogen*
  - D Pengurangan nombor pengoksidaan / *Decrease in oxidation number*

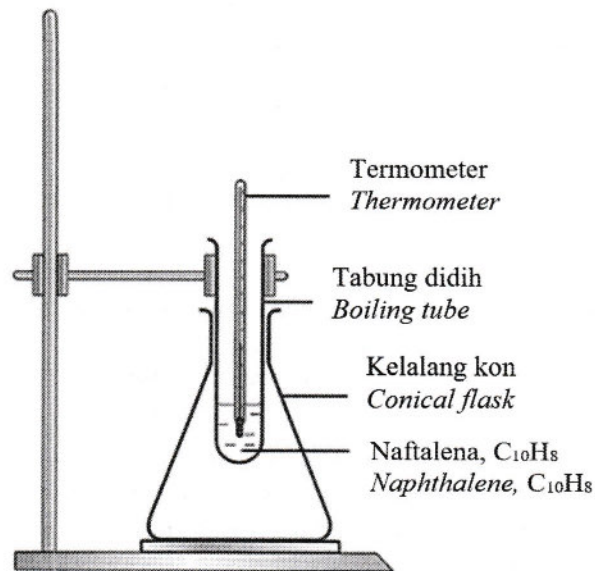
- 5 Pernyataan berikut merujuk kepada sumbangan seorang ahli sains dalam membangunkan Jadual Berkala Unsur.  
*The following statement refers to the contributions of scientist in the development of the Periodic Table of Elements.*

- Mengkaji frekuensi sinar-X yang dibebaskan oleh pelbagai unsur dan akhirnya menemui hubungan spektrum sinar-X dengan nombor proton.  
*Studied the frequency of X-ray released by various elements and eventually found in a relationship between the X-ray spectrum and proton numbers.*
- Menyusun unsur dalam Jadual Berkala Unsur mengikut tertib nombor proton yang menaik.  
*The arranged the elements in Periodic Table of Elements according to their increasing proton numbers.*

Siapakah ahli saintis tersebut?  
*Who was the scientist?*

- A Lothar Meyer
- B Henry Moseley
- C John Newlands
- D Dmitri Mendeleev

- 6 Rajah 2 menunjukkan radas eksperimen melibatkan bahan naftalena,  $C_{10}H_8$ .  
*Diagram 2 shows the experimental apparatus involving naphthalene,  $C_{10}H_8$ .*

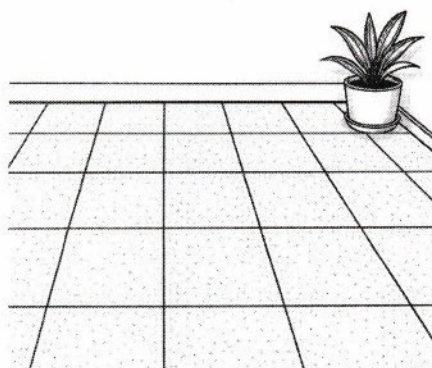


Rajah 2 / Diagram 2

Yang manakah antara berikut diperolehi dari susunan radas dalam Rajah 2?  
*Which of the following obtained from the arrangement of the apparatus in Diagram 2?*

- A Takat lebur / *Melting point*
  - B Takat beku / *Freezing point*
  - C Takat didih / *Boiling point*
- 7 Antara berikut yang manakah sebatian kovalen?  
*Which of the following is a covalent compound?*
- A Natrium klorida / *Sodium chloride*
  - B Karbon tetraklorida / *Carbon tetrachloride*
  - C Magnesium klorida / *Magnesium chloride*
  - D Ammonium nitrat / *Ammonium nitrate*

- 8 Rajah 3 menunjukkan jubin lantai yang diperbuat daripada seramik.  
*Diagram 3 shows floor tiles made from ceramics.*

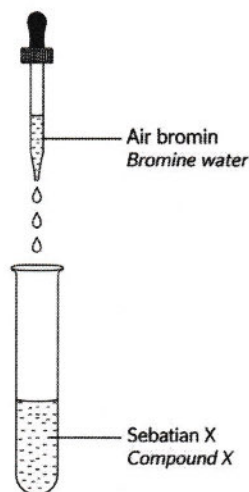


Rajah 3 / Diagram 3

Apakah sifat seramik yang sesuai untuk kegunaan tersebut?  
*What property of ceramics makes them suitable for this use?*

- A Keras dan tahan haba  
*Hard and heat resistant*
  - B Mudah ditempa  
*Malleable*
  - C Mengalirkan arus elektrik dengan baik  
*Good conductor of electricity*
  - D Tidak mudah berkarat  
*Does not easily rusts*
- 9 Apakah komposisi utama kaca?  
*What is the main composition of glass?*
- A Silikon dioksida / *Silicon dioxide*
  - B Kalsium karbonat / *Calcium carbonate*
  - C Natrium klorida / *Sodium chloride*
  - D Aluminium oksida / *Aluminium oxide*

- 10 Rajah 4 menunjukkan tindak balas antara sebatian X dengan air bromin.  
*Diagram 4 shows the reaction between compound X with bromine water.*



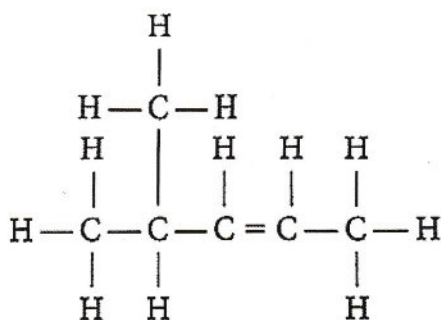
Rajah 4 / Diagram 4

Air bromin menjadi tidak berwarna apabila ditambahkan kepada sebatian X.  
Apakah yang berlaku apabila sebatian X bertindak balas dengan larutan kalium manganat(VII) berasid?

*Bromine water becomes colourless when added to compound X.  
What happens when compound X reacts with acidified potassium manganate(VII) solution?*

- A Warna ungu bertukar menjadi tidak berwarna  
*Purple colour turns colourless*
  - B Warna ungu kekal  
*Purple colour remains*
  - C Warna biru terbentuk  
*Blue colour is formed*
  - D Mendakan putih terbentuk  
*A white precipitate is formed*
- 11 Apakah kumpulan berfungsi bagi alkohol?  
*What is the functional group of alcohol?*
- A  $\text{-OH}$
  - B  $\text{-COOH}$
  - C  $\text{-COO-}$

- 12 Rajah 5 menunjukkan formula struktur satu sebatian X.  
*Diagram 5 shows the structural formula of compound X.*



Rajah 5 / Diagram 5

Berapakah peratus jisim karbon dalam sebatian X?

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

*What is the percentage of carbon by mass in compound X?*

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

- A 20.69 %
- B 21.42 %
- C 82.79 %
- D 85.71 %
- 13 Apakah maksud formula molekul?  
*What is the meaning of molecular formula?*
- A Formula yang menunjukkan bilangan unsur dalam sesuatu sebatian  
*Formula that shows the number of elements in a compound*
- B Formula yang menunjukkan jumlah semua atom dalam sesuatu sebatian  
*Formula that shows total of atoms in a compound*
- C Formula yang menunjukkan bilangan sebenar atom setiap unsur dalam sesuatu sebatian  
*Formula that shows the actual number of atoms of each element in a compound*
- D Formula yang menunjukkan nisbah teringkas setiap atom unsur dalam sesuatu sebatian  
*Formula that shows the simplest ratio of atoms of each element in a compound*

- 14 Jadual 1 menunjukkan susunan elektron bagi atom W, X, Y dan Z.  
*Table 1 shows the electron arrangement of elements W, X, Y and Z.*

| Unsur / <i>Element</i>                          | W     | X     | Y     | Z     |
|-------------------------------------------------|-------|-------|-------|-------|
| Susunan elektron<br><i>Electron arrangement</i> | 2.8.2 | 2.8.3 | 2.8.4 | 2.8.5 |

Jadual 1 / *Table 1*

Susun unsur W, X, Y dan Z mengikut pengurangan saiz atom.  
*Arrange elements W, X, Y and Z according to decreasing order of atomic size.*

- A W, X, Y, Z
- B Z, Y, X, W
- C X, W, Y, Z
- D Y, Z, X, W
- 15 Langkah-langkah berikut terlibat dalam kaedah saintifik.  
*The following steps are involved in scientific method.*

P: Mengumpul data  
*Collecting data*

Q: Membina hipotesis  
*Making hypothesis*

R: Membuat kesimpulan  
*Making conclusion*

S: Menganalisis data  
*Analysing data*

Antara yang berikut, yang manakah menunjukkan urutan langkah yang betul?  
*Which of following shows the sequence of the steps correctly?*

- A P, Q, S, R
- B Q, S, P, R
- C Q, P, S, R

- 16 Antara proses berikut, yang manakah menyerap haba daripada persekitaran?  
*Which of the following processes absorb heat from surrounding?*
- A Pembakaran / *Combustion*
  - B Pemendakan / *Precipitation*
  - C Fotosintesis / *Photosynthesis*
  - D Peneutralan / *Neutralisation*
- 17 Antara berikut, yang manakah ciri gas ammonia yang membolehkan sifat kealkalian dapat ditunjukkan?  
*Which of the following is the characteristic of ammonia gas that enables its alkaline properties to be shown?*
- A Mengion di dalam air  
*Ionise in water*
  - B Melarut di dalam air  
*Dissolve in water*
  - C Mengandungi ion hidroksida dalam molekul  
*Contains hydroxide ion in its molecule*
  - D Mengion dalam air dan menghasilkan ion hidroksida  
*Ionises in water and produces hydroxide ion*
- 18 Apakah yang dimaksudkan dengan polimer?  
*What is meant by a polymer?*
- A Molekul kecil yang ringkas  
*A small and simple molecule*
  - B Sebatian yang mengandungi logam  
*A compound that contains metal*
  - C Gabungan zarah halus dalam gas  
*A combination of fine particles in gas*
  - D Molekul berantai panjang yang terdiri daripada banyak unit ulangan  
*A long-chain molecule consisting of many repeating units*

- 19 Rajah 6 menunjukkan sejenis tumbuhan yang digunakan dalam perubatan tradisional.

*Diagram 6 shows a type of plant used in traditional medicine.*



Rajah 6 / Diagram 6

Antara berikut yang manakah kegunaan tumbuhan tersebut?

*Which of the following is the usage of the plant?*

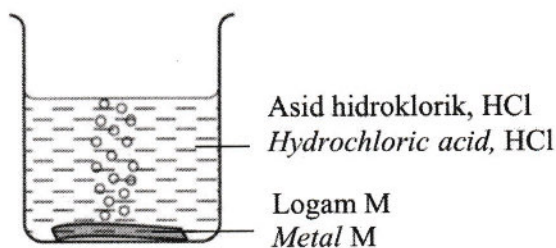
- A Merawat kurap  
*Treat ringworm*
  - B Mencegah selesema  
*Prevents flu*
  - C Menurunkan tekanan darah  
*Lower blood pressure*
  - D Melegakan luka akibat terbakar  
*Relieves burnt wound*
- 20 Ikatan ion biasanya terbentuk antara
- Ionic bonds are usually formed between*
- A logam dan logam  
*metal and metal*
  - B bukan logam dan bukan logam  
*non-metal and non-metal*
  - C logam dan bukan logam  
*metal and non-metal*
  - D logam dan gas adi  
*metal and noble gas*





- 23 Pernyataan yang manakah merujuk kepada asid lemah?  
*Which of the following statements refers to weak acid?*
- A Asid yang sangat cair  
*A highly diluted acid*
  - B Asid yang sangat mengakis  
*A highly corrosive acid*
  - C Asid mempunyai nilai pH yang paling rendah  
*Acid with the lowest pH value*
  - D Asid yang menghasilkan kepekatan ion hidrogen yang rendah di dalam air  
*Acid that produces low concentration of hydrogen ion in water*
- 24 Polipropena ialah satu polimer sintetik. Apakah nama monomer bagi polimer ini?  
*Polypropene is a synthetic polymer. What is the name of the monomer for this polymer?*
- A Etena / *Ethene*
  - B Propena / *Propene*
  - C Isoprena / *Isoprene*
  - D Asid amino / *Amino acid*
- 25 Bagaimanakah peningkatan suhu mempengaruhi pergerakan zarah-zarah bahan tindak balas?  
*How does an increase in temperature affect the movement of reactant particles?*
- A Zarah-zarah kehilangan tenaga kinetik  
*The particles lose kinetic energy*
  - B Zarah-zarah bergerak dengan lebih laju  
*The particles move at a higher speed*
  - C Zarah-zarah menjadi lebih besar dan berat  
*The particles become larger and heavier*
  - D Zarah-zarah berhenti bergerak apabila mencapai suhu optimum  
*The particles stop moving when they reach the optimum temperature*

- 26 Rajah 8 menunjukkan logam M bertindak balas dengan asid hidroklorik untuk menghasilkan garam dan gas hidrogen.  
*Diagram 8 shows metal M reacts with hydrochloric acid to produce salt and hydrogen gas.*



Rajah 8 / Diagram 8

Apakah tindak balas yang berlaku pada logam M?  
*What is the reaction that occurs at metal M?*

- A Penurunan / *Reduction*
- B Peleburan / *Melting*
- C Pemendakan / *Precipitation*
- D Pengoksidaan / *Oxidation*
- 27 Sekumpulan murid pengakap pergi berkhemah di tepi pantai. Mereka perlu menggunakan air laut untuk mencuci pakaian yang terkena minyak. Bahan manakah yang sesuai untuk pencucian yang berkesan?  
*A group of scouts went camping by the seaside. They needed to use seawater to wash clothes that were stained with oil. Which substance is suitable for an effective cleaning?*
- A Sabun / *Soap*
- B Antiseptik / *Antiseptic*
- C Detergen / *Detergent*
- D Natrium perborat / *Sodium perborate*

- 28 Jadual 2 menunjukkan maklumat tentang dua jenis larutan.  
*Table 2 shows the information of two different solutions.*

| Jenis larutan<br><i>Type of solution</i>     | Kepekatan ( $\text{mol dm}^{-3}$ )<br><i>Concentration (<math>\text{mol dm}^{-3}</math>)</i> |
|----------------------------------------------|----------------------------------------------------------------------------------------------|
| Asid hidroklorik<br><i>Hydrochloric acid</i> | 1.0                                                                                          |
| Asid etanoik<br><i>Ethanoic acid</i>         | 1.0                                                                                          |

Jadual 2 / Table 2

Antara berikut, yang manakah benar tentang dua jenis larutan itu?  
*Which of the following is correct about the two solutions?*

- I. Nilai pH bagi asid hidroklorik lebih rendah daripada asid etanoik  
*The pH value of hydrochloric acid is lower than ethanoic acid*
  - II. Darjah penceraian asid etanoik lebih rendah daripada asid hidroklorik  
*The degree of dissociation of ethanoic acids lower than hydrochloric acid*
  - III. Kepekatan ion hidrogen,  $\text{H}^+$  ion lebih tinggi dalam asid etanoik  
*The concentration of hydrogen,  $\text{H}^+$  ion is higher in ethanoic acid*
  - IV. Asid etanoik adalah asid kuat manakala asid hidroklorik adalah asid lemah  
*Ethanoic acid is a strong acid while hydrochloric acid is a weak acid*
- A** I dan II  
*I and II*
- B** II dan IV  
*II and IV*
- C** I dan III  
*I and III*
- D** III dan IV  
*III and IV*

- 29 3.25 g zink bertindak balas dengan 0.025 mol asid nitrik untuk membentuk zink nitrat sebagai salah satu hasil tindak balas. Tentukan jisim zink yang tinggal selepas tindak balas.  
[Jisim atom relatif:  $Zn = 65$ ]

*3.25 g of zinc reacts with 0.025 mol of nitric acid to form zinc nitrate as one of the reaction products. Determine the mass of zinc nitrate remaining after the reaction.*

*[Relative atomic mass:  $Zn = 65$ ]*

- A 0.81 g
- B 1.63 g
- C 2.44 g
- D 3.25 g

- 30 Jadual 3 menunjukkan isi padu gas yang dikumpul pada selang masa tertentu.  
*The Table 3 shows the volume of gas collected at specific time intervals.*

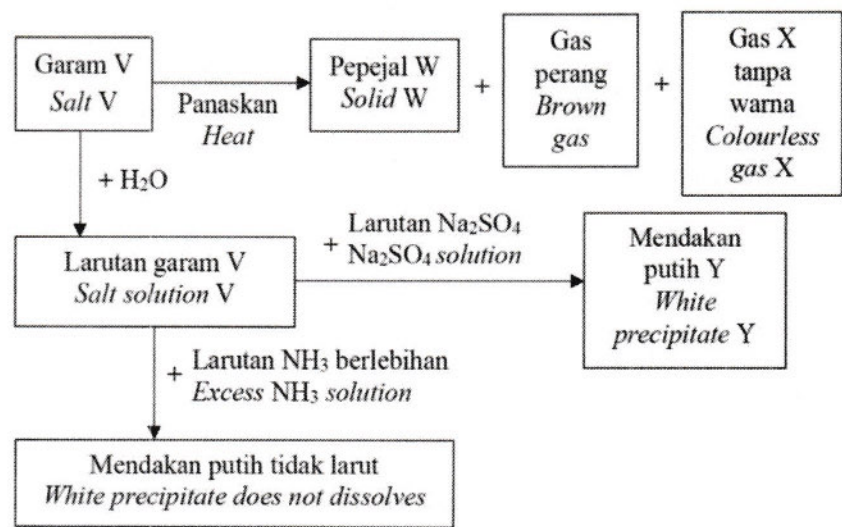
| Masa, s / Time, s                                               | 0   | 30   | 60   | 90   | 120  | 150  |
|-----------------------------------------------------------------|-----|------|------|------|------|------|
| Isi padu gas, cm <sup>3</sup><br>Volume of gas, cm <sup>3</sup> | 0.0 | 15.0 | 25.0 | 32.0 | 32.0 | 32.0 |

Jadual 3 / Table 3

Hitungkan kadar tindak balas purata dalam minit pertama.  
*Calculate the average rate of reaction for the first minute.*

- A  $0.12 \text{ cm}^3 \text{ s}^{-1}$
- B  $0.27 \text{ cm}^3 \text{ s}^{-1}$
- C  $0.36 \text{ cm}^3 \text{ s}^{-1}$
- D  $0.42 \text{ cm}^3 \text{ s}^{-1}$

- 31 Rajah 9 menunjukkan carta alir beberapa tindak balas ke atas garam V  
Diagram 9 shows a flow chart for a series of reactions on salt V.



Rajah 9 / Diagram 9

|   | Garam V<br/>Salt V                | Pepejal W<br/>Solid W                                                                           | Mendakan Y<br/>Precipitate Y |
|---|-----------------------------------|-------------------------------------------------------------------------------------------------|------------------------------|
| A | PbCO <sub>3</sub>                 | pepejal kuning semasa panas,<br/>putih semasa sejuk<br/>yellow solid when hot, white when cool  | PbSO <sub>4</sub>            |
| B | Pb(NO <sub>3</sub> ) <sub>2</sub> | pepejal perang semasa panas,<br/>kuning semasa sejuk<br/>brown solid when hot, yellow when cool | PbSO <sub>4</sub>            |
| C | ZnCO <sub>3</sub>                 | pepejal kuning semasa panas,<br/>putih semasa sejuk<br/>yellow solid when hot, white when cool  | ZnSO <sub>4</sub>            |
| D | Zn(NO <sub>3</sub> ) <sub>2</sub> | pepejal perang semasa panas,<br/>kuning semasa sejuk<br/>brown solid when hot, yellow when cool | ZnSO <sub>4</sub>            |

- 32 Seorang pelajar ingin mempercepatkan tindak balas antara marmar dan asid.  
Antara berikut, yang manakah aplikasi yang betul?  
*A student wants to speed up the reaction between marble and acid.  
Which of the following is the correct application?*
- A Menggunakan ketulan marmar yang besar  
*Using large marble lumps*
  - B Merendam marmar dalam air sebelum tindak balas  
*Soaking the marble in water before the reaction*
  - C Menggunakan asid yang mempunyai kepekatan lebih tinggi  
*Using an acid that has a higher concentration*
  - D Menjalankan eksperimen di dalam bekas yang diletakkan di dalam ais  
*Conducting the experiment in a container placed in ice*
- 33 Persamaan termokimia di bawah menunjukkan tindak balas di antara logam zink yang berlebihan dan larutan kuprum(II) sulfat.  
*Thermochemical equation below shows the reaction between excess zinc metal and copper(II) sulphate solution.*



Jika bacaan awal suhu larutan kuprum(II) sulfat ialah 29 °C, berapakah suhu tertinggi bagi tindak balas eksperimen di atas jika 100 cm<sup>3</sup> larutan kuprum (II) sulfat 0.5 mol dm<sup>-3</sup> digunakan?

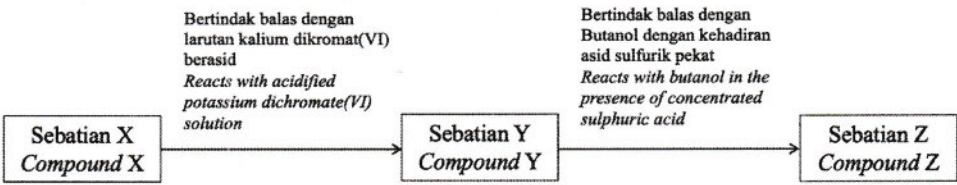
[Muatan haba tentu larutan = 4.2 J g<sup>-1</sup> °C<sup>-1</sup>]

*If the initial temperature of copper(II) sulphate solution is 29 °C, what is the highest temperature for the above experiment reaction if 100 cm<sup>3</sup> of 0.5 mol dm<sup>-3</sup> of copper(II) sulphate solution was used?*

[Specific heat capacity = 4.2 J g<sup>-1</sup> °C<sup>-1</sup>]

- A 25.0 °C
- B 41.0 °C
- C 54.0 °C
- D 85.0 °C

- 34 Rajah 10 menunjukkan carta alir penukaran sebatian X yang mempunyai 3 atom karbon.  
Diagram 10 shows a flow chart for the conversion of compound X, which has 3 carbon atoms.



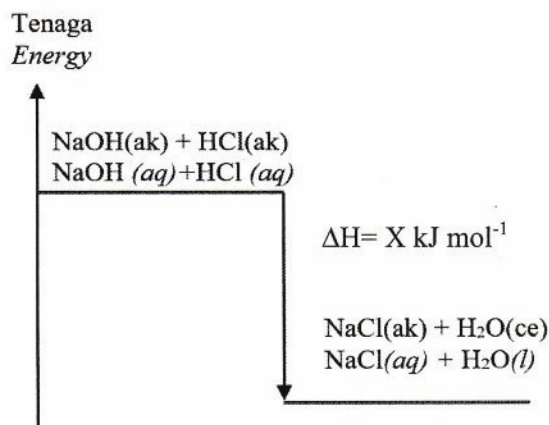
Rajah 10 / Diagram 10

Apakah nama bagi sebatian X, Y dan Z?  
What are the names of compound X, Y and Z?

|   | X                      | Y                                  | Z                                     |
|---|------------------------|------------------------------------|---------------------------------------|
| A | Propanol /<br>Propanol | Asid propanoik /<br>Propanoic acid | Butil propanoat /<br>Butyl propanoate |
| B | Propanol /<br>Propanol | Asid propanoik /<br>Propanoic acid | Propil butanoat /<br>Propyl butanoate |
| C | Propena /<br>Propene   | Asid propanoik /<br>Propanoic acid | Butil propanoat /<br>Butyl propanoate |
| D | Propanol /<br>Propanol | Propena /<br>Propene               | Butil propanoat /<br>Butyl propanoate |

- 35 Perubahan tenaga dalam tindak balas kimia boleh diwakili menggunakan rajah aras tenaga. Rajah 11 menunjukkan rajah aras tenaga bagi tindak balas antara natrium hidroksida dan asid hidroklorik.

*Energy change in a chemical reaction can be represented using an energy level diagram. Diagram 11 shows energy level diagram of a reaction between sodium hydroxide and hydrochloric acid.*



Rajah 11 /Diagram 11

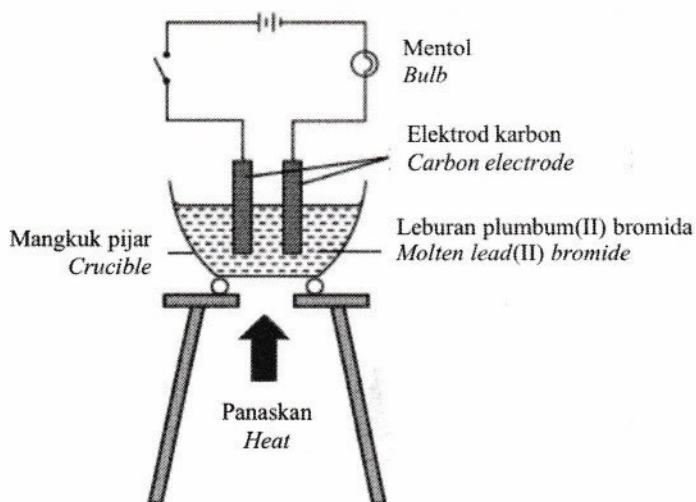
Antara yang berikut, pernyataan manakah yang menerangkan rajah aras tenaga tersebut?

*Which of the following statements explains the energy level diagram?*

- A Haba yang diserap dari persekitaran adalah sebanyak  $-57.3 \text{ kJ mol}^{-1}$   
*The heat absorbed from the environment is  $-57.3 \text{ kJ mol}^{-1}$*
- B Jumlah kandungan tenaga hasil tindak balas lebih tinggi daripada jumlah kandungan tenaga bahan tindak balas  
*Total energy content of the products is higher than total energy content of the reactants*
- C Semasa natrium hidroksida dan asid hidroklorik bertindak balas, suhu campuran akan menurun  
*As the sodium hydroxide and hydrochloric acid react, the temperature of the mixture will decrease*
- D Tenaga yang dibebaskan semasa membentuk ikatan lebih tinggi daripada tenaga yang diserap untuk memutuskan ikatan  
*The energy released to form bonds is higher than the energy absorbed to break bonds*



- 36 Rajah 12 menunjukkan susunan radas bagi elektrolisis leburan plumbum(II) bromida,  $\text{PbBr}_2$ .  
 Diagram 12 shows the arrangement of apparatus for the electrolysis of molten lead(II) bromide,  $\text{PbBr}_2$ .



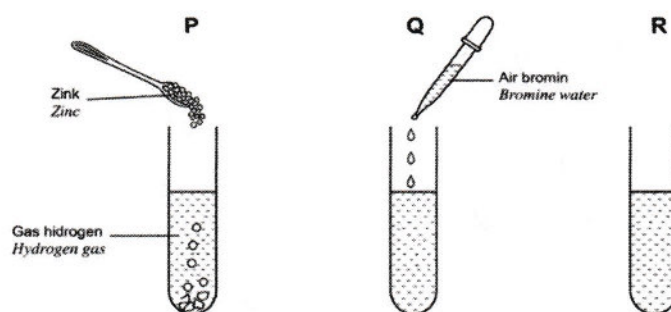
Rajah 12 / Diagram 12

Antara setengah persamaan berikut, yang manakah berlaku di anod dan katod?  
 Which of the following half equations occurs at the anode and cathode?

|   | Anod / Anode                                         | Katod / Cathode                                      |
|---|------------------------------------------------------|------------------------------------------------------|
| A | $\text{Pb}^{2+} + 2\text{e}^- \rightarrow \text{Pb}$ | $2\text{Br}^- \rightarrow \text{Br}_2 + 2\text{e}^-$ |
| B | $2\text{Br}^- \rightarrow \text{Br}_2 + 2\text{e}^-$ | $2\text{H}^+ + 2\text{e}^- \rightarrow \text{H}_2$   |
| C | $\text{Pb}^{2+} + 2\text{e}^- \rightarrow \text{Pb}$ | $2\text{Br}^- \rightarrow \text{Br}_2 + 2\text{e}^-$ |
| D | $2\text{Br}^- \rightarrow \text{Br}_2 + 2\text{e}^-$ | $\text{Pb}^{2+} + 2\text{e}^- \rightarrow \text{Pb}$ |

- 37 Rajah 13 menunjukkan tiga sebatian organik P, Q dan R yang masing-masing mempunyai 5 atom karbon.

Diagram 13 shows three organic compounds P, Q and R that has 5 carbon atoms each.



Rajah 13 / Diagram 13

- Sebatian P bertindak balas dengan zink untuk menghasilkan gas hidrogen.
- Sebatian Q menyahwarnakan air bromin.
- Sebatian R tidak bertindak balas dengan zink dan tidak menyahwarnakan air bromin.
- Compound P reacts with zinc to produce hydrogen gas.
- Compound Q decolourises bromine water.
- Compound R does not react with zinc and does not decolourise bromine water.

Antara berikut, yang manakah mewakili sebatian P, Q dan R?

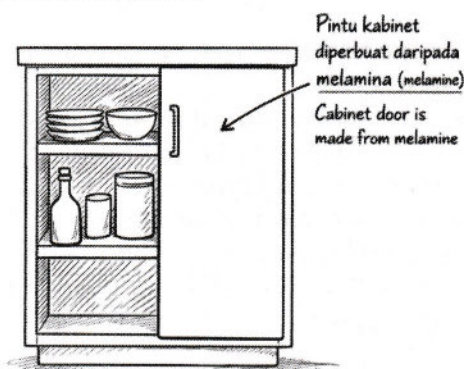
Which of the following represents compound P, Q and R?

|   | P                                  | Q                    | R                                  |
|---|------------------------------------|----------------------|------------------------------------|
| A | Asid pentanoik /<br>Pentanoic acid | Pentena /<br>Pentene | Pentanol /<br>Pentanol             |
| B | Pentanol /<br>Pentanol             | Pentena /<br>Pentene | Asid pentanoik /<br>Pentanoic acid |
| C | Asid pentanoik /<br>Pentanoic acid | Pentana /<br>Pentane | Pentanol /<br>Pentanol             |
| D | Pentanol /<br>Pentanol             | Pentana /<br>Pentane | Asid pentanoik /<br>Pentanoic acid |

- 38 Sebatian X mempunyai formula molekul  $C_3H_6$ .  
Apakah siri homolog bagi sebatian tersebut?  
*Compound X has the molecular formula  $C_3H_6$ .  
What is the homologous series of the compound?*

A Alkana / *Alkane*  
B Alkena / *Alkene*  
C Alkuna / *Alkyne*  
D Alkohol / *Alcohol*

- 39 Rajah 14 menunjukkan sebuah kabinet dapur.  
*Diagram 14 shows a kitchen cabinet.*

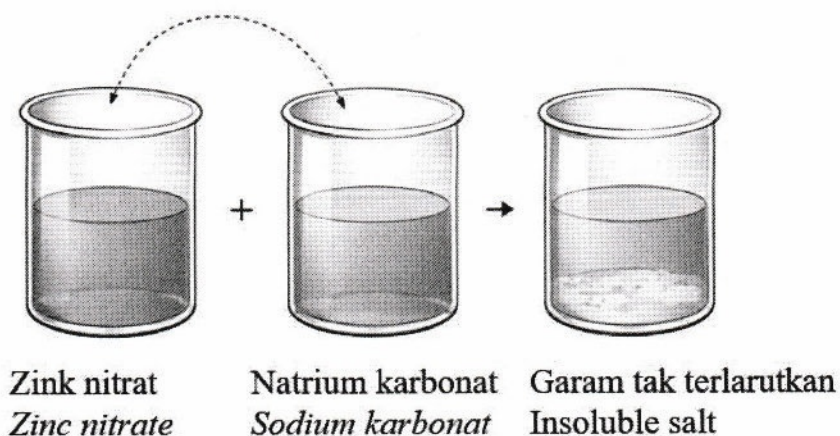


Rajah 14 / *Diagram 14*

Kabinet dapur diperbuat daripada melamina. Antara berikut, yang manakah menerangkan ciri bagi jenis polimer tersebut?  
*Kitchen cabinet are made from melamine. Which of the following describes the characteristics of this type of polymer?*

- A Keras dan rapuh  
*Hard and brittle*  
B Boleh dikitar semula  
*Can be recycled*  
C Dapat diregang dan kembali kepada bentuk asal  
*Can be stretched and return to their original shape*  
D Membentuk rangkai silang apabila dipanaskan  
*Forms cross-links when heated*

- 40 Rajah 15 menunjukkan tindak balas dua jenis garam terlarutkan untuk menghasilkan satu garam tak terlarutkan.  
*Diagram 15 shows the reaction of two types of soluble salts to produce an insoluble salt.*



Rajah 15/ *Diagram 15*

Hitung jisim garam tak terlarutkan yang terhasil jika  $20\text{ cm}^3$  larutan zink nitrat  $0.5\text{ mol dm}^{-3}$  digunakan.

*Calculate the mass of insoluble salt produced if  $20\text{ cm}^3$  of  $0.5\text{ mol dm}^{-3}$  zinc nitrate solution is used.*

[Jisim molar garam tak terlarutkan =  $125\text{ g/mol}$ ]

[*Molar mass of insoluble salt =  $125\text{ g/mol}$* ]

- A 1.89 g
- B 1.25 g
- C 3.81 g
- D 5.87 g

SOALAN TAMAT  
*END OF QUESTION*