

1 Rajah 1 menunjukkan marjerin yang digunakan dalam pelbagai masakan.

Diagram 1 shows margarine used in various cooking.



Rajah 1

Diagram 1

Unsur X digunakan dalam proses penghidrogenan minyak sayuran untuk membuat marjerin.

Element X is used in the hydrogenation process on vegetable oils to produce margarine.

Apakah unsur X itu?

What is the element X?

A Ferum

Iron

B Aluminium

Aluminium

C Nikel

Nickel

D Vanadium(V) oksida

Vanadium(V) oxide

2 Antara yang berikut, yang manakah asid tribes?

Which of the following is a triprotic acid?

- A Asid fosforik
Phosphoric acid
- B Asid sulfurik
Sulphuric acid
- C Asid nitrik
Nitric acid
- D Asid kromik
Chromic acid

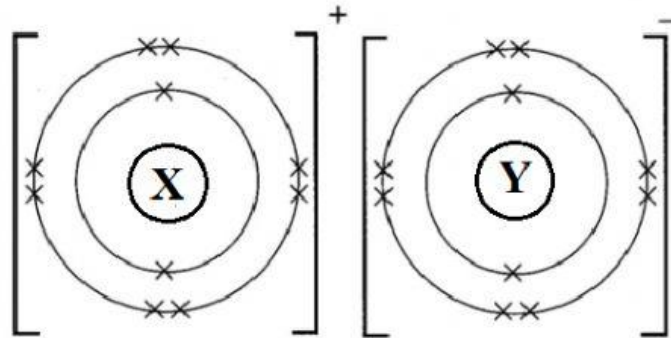
3 Pernyataan manakah yang **betul**?

Which statement is correct?

- A Takat lebur menyebabkan zarah membebaskan tenaga haba lalu bergetar lebih cepat kerana tenaga kinetik semakin bertambah
Melting point causes the particle releases heat energy and vibrate faster because kinetic energy increases
- B Takat lebur menyebabkan tenaga haba yang dibebaskan digunakan untuk mengatasi daya tarikan antara zarah
Melting point causes heat energy released by the particles is used to overcome the attraction force between the particles
- C Takat beku menyebabkan tenaga haba yang dibebaskan ke persekitaran diimbangi oleh tenaga haba yang terbebas apabila zarah menarik antara satu sama lain
Freezing point causes heat energy that is lost to the surrounding is balanced by the heat energy released when the particles attract each other
- D Takat beku menyebabkan zarah membebaskan haba lalu bergerak dengan lebih perlahan kerana kehilangan tenaga kinetik
Freezing point causes the particles release heat and move slower due to the lost of kinetic energy

- 4 Rajah 2 mewakili susunan elektron bagi satu sebatian yang terbentuk antara logam X dengan logam Y.

Diagram 2 represents the electron arrangement of a compound formed between metal X and metal Y.



Rajah 2

Diagram 2

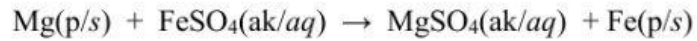
Apakah sifat bagi sebatian itu?

What is property of the compound?

- A** Boleh menghkonduksi elektrik dalam keadaan akueus
Can conduct electricity in aqueous state
- B** Larut dalam pelarut organik
Soluble in organic solvent
- C** Wujud sebagai cecair pada suhu bilik
Exists as liquid at room temperature
- D** Mempunyai takat lebur dan takat didih yang rendah
Has low melting and boiling points

- 5 Persamaan berikut mewakili tindak balas penyesaran logam.

The following equation represents the displacement reaction of metal.



Antara yang berikut, yang manakah **benar** mengenai persamaan berikut?

*Which of the following is **correct** about the following equation?*

- A** Magnesium dan larutan ferum(II) sulfat merupakan kuantitatif bahan tindak balas
Magnesium and iron(II) sulphate solution are quantitative reactants
- B** Magnesium sulfat dan ferum merupakan kualitatif bahan tindak balas
Magnesium sulphate and iron are qualitative reactants
- C** 1 mol magnesium bertindak balas dengan 1 mol ferum(III) sulfat untuk menghasilkan 1 mol magnesium sulfat dan 1 mol ferum
1 mole of magnesium reacts with 1 mole of iron(III) sulphate to produce 1 mole of magnesium sulfate and 1 mole of iron
- D** 1 mol magnesium bertindak balas dengan 1 mol ferum(II) sulfat untuk menghasilkan 1 mol magnesium sulfat dan 1 mol ferum
1 mole of magnesium reacts with 1 mole of iron(II) sulphate to produce 1 mole of magnesium sulfate and 1 mole of iron

- 6 Jadual 1 menunjukkan kadar purata bagi tindak balas antara kalsium karbonat berlebihan dengan 50 cm^3 asid nitrik 0.5 mol dm^{-3} .

Table 1 shows the average rate for the reaction between excess calcium carbonate and 50 cm^3 of 0.5 mol dm^{-3} nitric acid.

Masa (s) <i>Time (s)</i>	60	120	180	210
Kadar purata (cm^3s^{-1}) <i>Average rate (cm^3s^{-1})</i>	1.28	0.60	0.23	0.12

Jadual 1

Table 1

Pernyataan manakah yang dapat menerangkan perubahan kadar purata bagi tindak balas itu?

Which statement explains the changes in average rate of the reaction?

- A** Jisim kalsium karbonat berkurang
Mass of calcium carbonate decreases
- B** Isi padu gas yang dibebaskan bertambah
The volume of gas released increases
- C** Kepekatan ion hidrogen bertambah
The concentration of hydrogen ion increases
- D** Isi padu asid nitrik yang digunakan berkurang
The volume of nitric acid used decreases

- 7 Rajah 3 menunjukkan air klorin dimasukkan ke dalam tabung uji yang berisikan larutan kalium bromida.

Diagram 3 shows chlorine water is added into a test tube containing potassium bromide.



Rajah 3

Diagram 3

Antara yang berikut, yang manakah inferens bagi tindak balas yang berlaku?

Which of the following is the inferences from the reaction?

- I Ion bromida diturunkan
Bromide ion is reduced
 - II Ion bromida menerima elektron
Bromide ion receives electrons
 - III Bromin terhasil
Bromine is formed
 - IV Klorin diturunkan
Chlorine is reduced
- A I dan II
I and II
- B II dan IV
II and IV
- C III dan IV
III and IV

SULIT

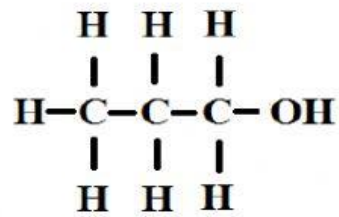
4541/1

- D I, II dan III
I, II and III

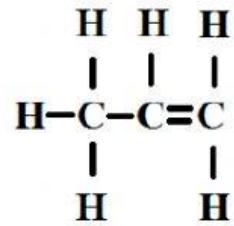
8 Sebatiannya adalah suatu hidrokarbon tak tepu?

Which compound is unsaturated hydrocarbon?

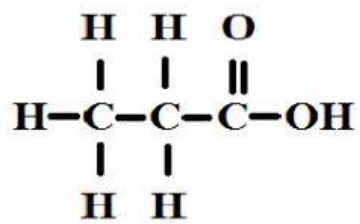
A



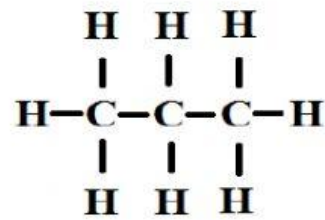
B



C

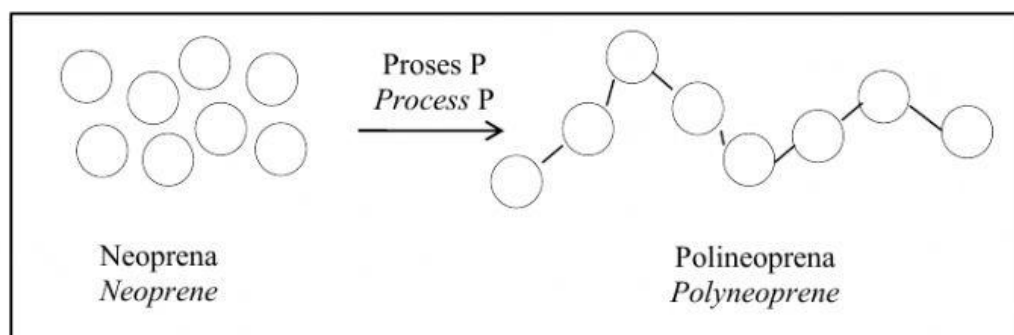


D



- 9 Rajah 4 menunjukkan suatu proses penghasilan bahan sintetik.

Diagram 4 shows a process in the production of a synthetic material.



Rajah 4

Diagram 4

Apakah proses P?

What is process P?

- A Penggumpalan
Coagulation
- B Pempolimeran
Polymerization
- C Pempvulkanan
Vulcanization
- D Penyahpolimeran
Depolymerization

- 10 Antara berikut, yang manakah menunjukkan nilai yang **betul** bagi haba pembakaran alkohol?

*Which of the following shows the **correct** value for the heat of combustion of alcohols?*

	Etanol <i>Ethanol</i>	Propanol <i>Propanol</i>	Butanol <i>Butanol</i>
A	-1376 kJ mol ⁻¹	-2015 kJ mol ⁻¹	-2676 kJ mol ⁻¹
B	-2015 kJ mol ⁻¹	-2676 kJ mol ⁻¹	-1376 kJ mol ⁻¹
C	-2676 kJ mol ⁻¹	-2015 kJ mol ⁻¹	-1376 kJ mol ⁻¹
D	-1376 kJ mol ⁻¹	-725 kJ mol ⁻¹	-2015 kJ mol ⁻¹

- 11 Plastik manakah yang merupakan plastik termoset?

Which plastic is the thermosetting plastic?

A *Nilon*

Nilon

B Polistirena

Polystyrene

C Polivinil klorida

Polyvinyl chloride

D Melamin

Melamine

- 12 Apakah kaedah yang digunakan untuk memperoleh garam tulen daripada air laut?

What is the method used to obtain pure salt from sea water?

A Penurasan

Filtration

B Penghabluran

Crystallisation

C Peneutralan

Neutralisation