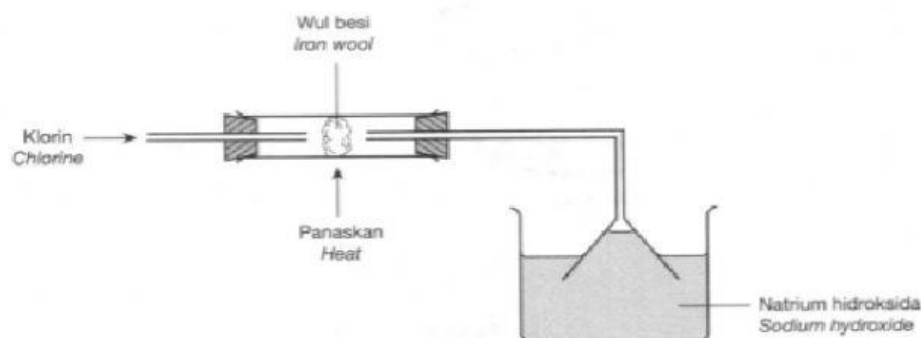


- 6 Rajah 6 menunjukkan susunan radas bagi mengkaji tindak balas klorin dengan ferum.
Diagram 6 shows the set-up of the apparatus for studying the reaction between chlorine and iron.



Rajah 6 Diagram 6

- (a) Nyatakan pemerhatian bagi tindak balas ini.
State the observation for this reaction.

[2 markah/marks]

- (b) Berdasarkan Rajah 6,
Based on Diagram 6,

- (i) namakan hasil tindak balas.
name the product.

[1 markah/mark]

- (ii) Nyatakan perubahan nombor pengoksidaan bagi ferum.
State the change in the oxidation number of iron.

[1 markah/mark]

- (c) Apakah fungsi larutan natrium hidroksida dalam eksperimen ini?
What is the function of sodium chloride solution in this experiment?

[1 markah/mark]

- (d) Ramalkan kadar tindak balas bagi eksperimen ini jika klorin digantikan dengan bromin.
Predict the rate of reaction of the experiment if chlorine is replaced with bromine.

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[1 markah/mark]

- (e) 0.03 mol ferum bertindak balas lengkap dengan gas klorin berlebihan.
0.03 mol of iron reacted completely with excess chlorine gas.
[Jisim atom relatif/Relative atomic mass: Cl = 35.5, Fe = 56]

- (i) Tuliskan persamaan kimia bagi tindak balas ini.
Write a chemical equation for this reaction.

[2 markah/marks]

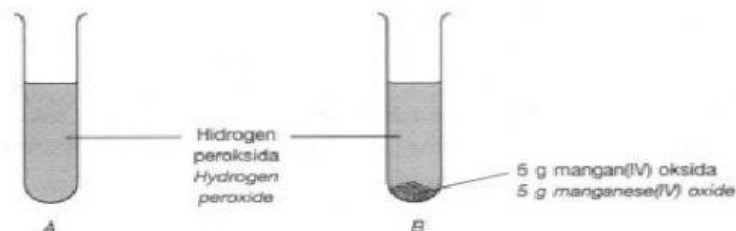
- (ii) Hitung jisim hasil tindak balas pepejal yang terhasil.
Calculate the mass of the solid product formed.

[2 markah/marks]

LATIH TUBI KIMIA

- 7 Rajah 7 menunjukkan satu eksperimen dijalankan untuk menyiasat penguraian hidrogen peroksida dengan kehadiran mangkin. 5 g mangan(IV) oksida ditambah kepada 10 cm³ larutan hidrogen peroksida. Gas yang dibebaskan diuji dengan kayu uji berbara.

Diagram 7 shows an experiment that was conducted to investigate the decomposition of hydrogen peroxide with the presence of a catalyst. 5 g of manganese(IV) oxide is added into 10 cm³ of hydrogen peroxide solution. The gas liberated is tested with a glowing wooden splinter.



Tabung uji A <i>Test tube A</i>	10 cm ³ 2-isi padu hidrogen peroksida <i>10 cm³ of 2-volume hydrogen peroxide</i>
Tabung uji B <i>Test tube B</i>	5 g mangan(IV) oksida + 10 cm ³ 2-isi padu hidrogen peroksida <i>5 g of manganese(IV) oxide + 10 cm³ of 2-volume hydrogen peroxide</i>

Rajah 7 Diagram 7

- (a) Tuliskan persamaan untuk penguraian hidrogen peroksida.
Write an equation for the decomposition of hydrogen peroxide.

[2 markah/marks]

- (b) Nyatakan maksud mangkin.
State the meaning of catalyst.

[1 markah/mark]

- (c) Lengkapkan jadual berikut untuk menyatakan pemerhatian tindak balas tersebut.
Complete the following table to state the observation of the reaction.

Tabung uji <i>Test tube</i>	Pemerhatian <i>Observation</i>
A	
B	

[2 markah/marks]

- (d) Terangkan bagaimana mangkin mempengaruhi kadar penguraian hidrogen peroksida.
Explain how a catalyst affects the rate of decomposition of hydrogen peroxide.

[2 markah/marks]

LATIH TUBI KIMIA

- (e) Cadangkan **satu** kaedah lain yang boleh digunakan untuk meningkatkan kadar penguraian hidrogen peroksida.

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*Suggest **one** other method which can be used to increase the rate of decomposition of hydrogen peroxide.*

[1 markah/mark]

- (f) Selepas eksperimen tamat, kandungan tabung uji B dituras dan jisim baki turasan ditimbang.
After the experiment has ended, the contents of test tube B is filtered and the mass of the residue is weighed.

- (i) Nyatakan pemerhatian yang dapat dilihat.
State the observation.

[1 markah/mark]

- (ii) Beri **satu** sebab bagi (f)(i).

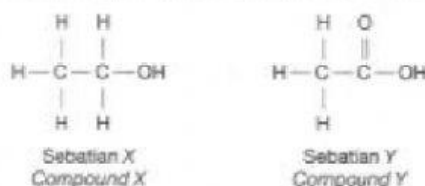
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*Give **a** reason for (f)(i).*

[1 markah/mark]

- 8 Rajah 8 menunjukkan formula struktur bagi sebatian X dan Y yang masing-masing mengandungi dua atom karbon.

Diagram 8 shows the structural formulae of compounds X and Y that contain two carbon atoms respectively.



Rajah 8 Diagram 8

- (a) (i) Nyatakan siri homolog bagi sebatian X.
State the homologous series for compound X.

[1 markah/mark]

- (ii) Tuliskan formula molekul bagi sebatian X.
Write the molecular formula of compound X.

[1 markah/mark]

- (b) Pada Rajah 8, bulatkan kumpulan berfungsi bagi sebatian Y.
In Diagram 8, circle the functional group of compound Y.

[1 markah/mark]

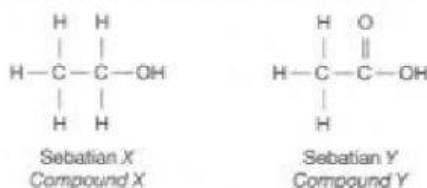
- (c) Huraikan **satu** ujian kimia untuk membezakan antara sebatian X dengan sebatian Y.
*Describe **a** chemical test to differentiate between compounds X and Y.*

[2 markah/marks]

LATIH TUBI KIMIA

- 8 Rajah 8 menunjukkan formula struktur bagi sebatian *X* dan *Y* yang masing-masing mengandungi dua atom karbon.

Diagram 8 shows the structural formulae of compounds X and Y that contain two carbon atoms respectively.



Rajah 8 *Diagram 8*

- (a) (i) Nyatakan siri homolog bagi sebatian *X*.
State the homologous series for compound X.

[1 markah/mark]

- (ii) Tuliskan formula molekul bagi sebatian *X*.
Write the molecular formula of compound X.

[1 markah/mark]

- (b) Pada Rajah 8, bulatkan kumpulan berfungsi bagi sebatian *Y*.
In Diagram 8, circle the functional group of compound Y.

[1 markah/mark]

- (c) Huraikan **satu** ujian kimia untuk membezakan antara sebatian *X* dengan sebatian *Y*.
Describe a chemical test to differentiate between compounds X and Y.

[2 markah/marks]

- (d) (i) Jelaskan bagaimana sebatian *Y* dapat disediakan daripada sebatian *X*.
Explain how compound Y can be prepared from compound X.

[2 markah/marks]

- (ii) Tulis persamaan tindak balas di (d)(i).
Write the equation for the reaction in (d)(i).

[1 markah/mark]

- (e) Satu sebatian *Z* dihasilkan apabila sebatian *X* bertindak balas dengan sebatian *Y*.
Namakan sebatian *Z*.
A compound Z is produced when compound X is reacted with compound Y.
Name compound Z.

[1 markah/mark]