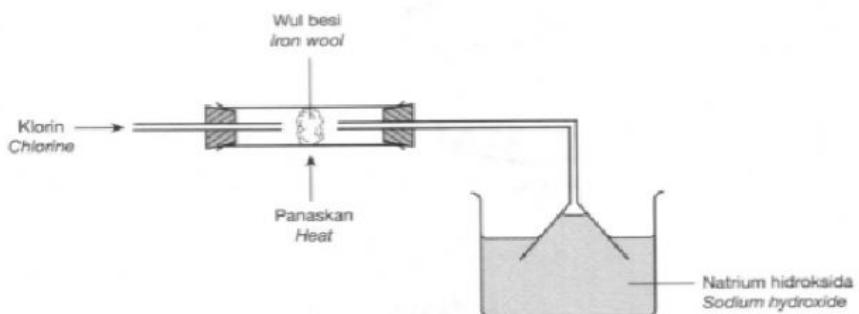


## LATIH TUBI KIMIA

- 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.*

[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]

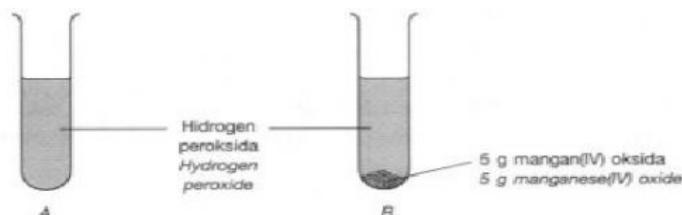
- (ii) Hitung jisim hasil tindak balas pepejal yang terhasil.  
*Calculate the mass of the solid product formed.*

[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  $10 \text{ cm}^3$  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  $10 \text{ cm}^3$  of hydrogen peroxide solution. The gas liberated is tested with a glowing wooden splinter.



<b>Tabung uji A</b> <i>Test tube A</i>	$10 \text{ cm}^3$ 2-isi padu hidrogen peroksida <i><math>10 \text{ cm}^3</math> of 2-volume hydrogen peroxide</i>
<b>Tabung uji B</b> <i>Test tube B</i>	5 g mangan(IV) oksida + $10 \text{ cm}^3$ 2-isi padu hidrogen peroksida <i>5 g of manganese(IV) oxide + <math>10 \text{ cm}^3</math> 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.*

<b>Tabung uji</b> <i>Test tube</i>	<b>Pemerhatian</b> <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.*

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[2 markah/marks]

## LATIH TUBI KIMIA

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

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

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[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.*

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[1 markah/mark]

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

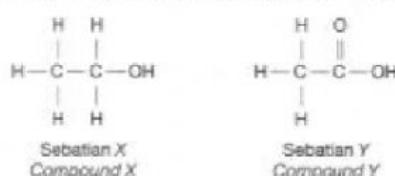
**KSAT** Give a reason for (f)(i).

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[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*.*

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[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*.*

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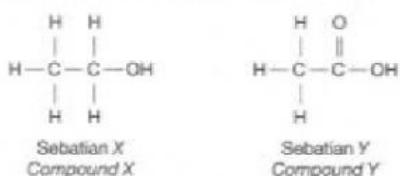
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[2 markah/marks]

**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.*

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[2 markah/marks]

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

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[2 markah/marks]

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

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[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.*

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[1 markah/mark]