

Bab

5

Sebatian Karbon Carbon Compounds

Tema 2: Penerokaan Unsur dalam Alam

Buku Teks: M/s 142 – 144

5.1 Pengenalan Sebatian Karbon Introduction to Carbon Compounds

S.P. 5.1.1 – 5.1.2

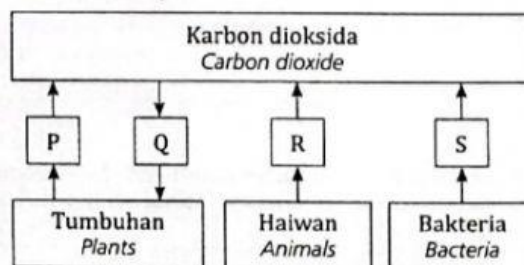
- 1 Padankan sebatian karbon berikut dengan contohnya. **TP2**
Match the following carbon compounds with their examples.

Sebatian karbon organik
Organic carbon compounds

Sebatian karbon bukan organik
Inorganic carbon compounds

Gula Sugar
Karbon dioksida Carbon dioxide
Etanol Ethanol
Kalsium karbonat Calcium carbonate
Minyak sawit Palm oil
Hidrogen karbonat Hydrogen carbonate
Arang batu Coal
Karbon monoksida Carbon monoxide
Kain kapas Cotton cloth
Zink karbonat Zinc carbonate

- 2 Rajah berikut menunjukkan kitar karbon. **TP2**
The following diagram shows the carbon cycle.



PAK-21

Nyatakan proses P, Q, R dan S. **TP2**
State the processes P, Q, R and S.

P: _____

R: _____

Q: _____

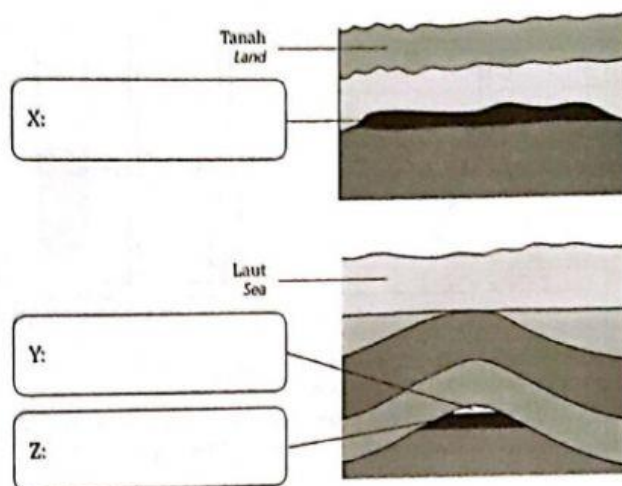
S: _____

5.2 Hidrokarbon Hydrocarbons

Buku Teks M/s 145 – 150

SP 5.2.1 – 5.2.3

- 1 (a) Rajah berikut menunjukkan pembentukan sebatian hidrokarbon. Labelkan hidrokarbon X, Y dan Z.
The following diagram shows the formation of hydrocarbon compounds. Label hydrocarbons X, Y and Z. **TP1**



- (b) Gariskan jawapan yang betul bagi pernyataan berikut. **TP1**
Underline the correct answer for the following statements.

- (i) Sebatian karbon tepu mempunyai ikatan kovalen (tunggal, ganda dua) di antara dua atom karbon manakala sebatian karbon tak tepu mempunyai ikatan kovalen (tunggal, ganda dua) di antara dua atom karbon.

Saturated carbon compounds have (single, double) covalent bonds between two carbon atoms while unsaturated carbon compounds have (single, double) covalent bonds between two carbon atoms.

- (ii) Alkana ialah sebatian hidrokarbon (tepu, tak tepu) manakala alkena ialah sebatian hidrokarbon (tepu, tak tepu).

Alkanes are (saturated, unsaturated) hydrocarbon compounds while alkenes are (saturated, unsaturated) hydrocarbon compounds.

- (iii) Propana merupakan salah satu ahli (alkana, alkena) manakala propena merupakan salah satu ahli (alkana, alkena).

Propane is one of the members of (alkane, alkene) while propene is one of the members of (alkane, alkene).

- (iv) Bilangan karbon dalam heksana ialah (lima, enam) manakala bilangan karbon dalam pentana ialah (lima, enam).

The number of carbons in hexane is (five, six) while the number of carbons in pentane is (five, six).

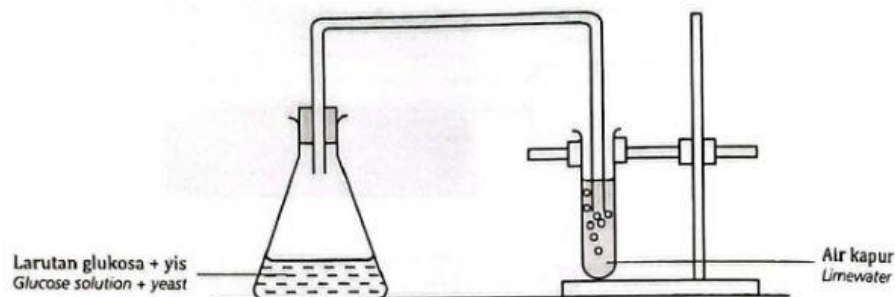
- (v) Sumber tenaga alternatif ialah sumber tenaga yang (tidak boleh baharu, tidak mudah habis).
Alternative energy sources are energy sources that (are non-renewable, will not deplete easily).

5.3 Alkohol
Alcohol

Buku Teks M/s 150 - 151

S.P: 5.3.1 - 5.3.4

- 1 Rajah berikut menunjukkan satu eksperimen yang dijalankan di makmal sains.
The following diagram shows an experiment conducted in a science laboratory.



Berdasarkan rajah di atas, gariskan jawapan yang betul. **1721**
Based on the above diagram, underline the correct answer.

- (a) Proses yang berlaku di dalam kelalang kon ialah (penyulingan , penapaian).
The process that takes place in the conical flask is (distillation , fermentation).
- (b) Yis telah menukarkan larutan glukosa kepada (etanol , ester).
Yeast has converted the glucose solution to (ethanol , ester).
- (c) Enzim yang telah dihasilkan oleh yis adalah enzim (amylase , zimase).
The enzymes that have been produced by yeast are (amylase , zymase) enzymes.
- (d) Tindakan yis terhadap glukosa membebaskan gas (hidrogen , karbon dioksida).
The action of yeast on glucose releases (hydrogen , carbon dioxide) gas.
- (e) Gas yang dibebaskan akibat tindakan yis menyebabkan air kapur di dalam tabung uji menjadi (keruh , jernih).
The gas released due to the action of yeast causes the limewater in the test tube to turn (cloudy, clear).
- (f) Larutan di dalam kelalang kon perlu menjalani satu proses yang akan menyebabkan hasil tindak balas dalam kelalang itu dipisahkan dan dikumpulkan. Proses ini dikenali sebagai (penurasan , penyulingan).
The solution in the conical flask needs to undergo a process that will cause the product in the flask to be separated and collected. This process is known as (filtration , distillation).

