

2008 SBP P2A5

2. Table 5 shows molecular formulae of 4 carbon compounds.
Jadual 5 menunjukkan formula molekul bagi 4 sebatian karbon.

Compound Sebatian	Molecular Formula Formula molekul
A	C ₄ H ₈
B	C ₄ H ₁₀
C	C ₄ H ₉ OH
D	C ₂ H ₅ COOH

Table 5 / Jadual 5

- (a) Write the general formula of the homologous series of compound B.
Tuliskan formula umum bagi siri homolog sebatian B.

..... [1 mark]

- (b) State the functional group of compound A and compound D
Nyatakan kumpulan berfungsi bagi sebatian A dan sebatian D.

Compound A:
Sebatian A

Compound D:
Sebatian D

..... [2 marks]

- (c) Compound B shows isomerism. Name the structural formula of **all** isomers of compound B.
Sebatian B menunjukkan isomerisme. Lukiskan formula struktur bagi semua isomer sebatian B.

..... [2 marks]

- (d) Compound D and compound C are reacted with the presence of the concentrated sulphuric acid.

Sebatian D dan sebatian C bertindak balas dengan kehadiran asid sulfurik pekat.

- (i) Name the product formed from the reaction.

Namakan hasil yang terbentuk daripada tindak balas

.....
[1 mark]

- (ii) State one special characteristic of the product formed.

Nyatakan satu ciri istimewa bagi hasil yang terbentuk

.....
[1 mark]

- (e) Compound A burns in excess oxygen to produce carbon dioxide and water.

Sebatian A dibakar dalam oksigen berlebihan menghasilkan carbon dioksida dan air.

- (i) Write a balanced chemical equation for the reaction.

Tuliskan persamaan kimia seimbang bagi tindak balas tersebut

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[1 mark]

- (ii) 11.2 g of compound A burns in excess oxygen, calculate number of carbon dioxide molecules formed.

11.2 g sebatian A dibakar dalam oksigen berlebihan, hitungkan bilangan molekul carbon dioksida yang terbentuk.

[Relative atomic mass C = 12, O = 16 and Avogadro number = 6.03×10^{23}]

[Jisim atom relatif C = 12, O = 16 dan nombor Avogadro = 6.03×10^{23}]

.....
[2 marks]

