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_4H_8
B	C_4H_{10}
C	C_4H_9OH
D	C_2H_5COOH

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]

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(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

.....

[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]

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