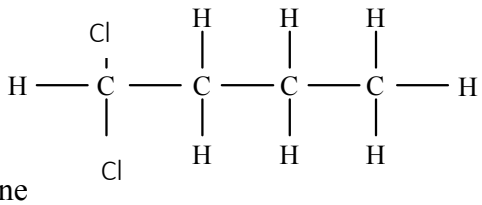
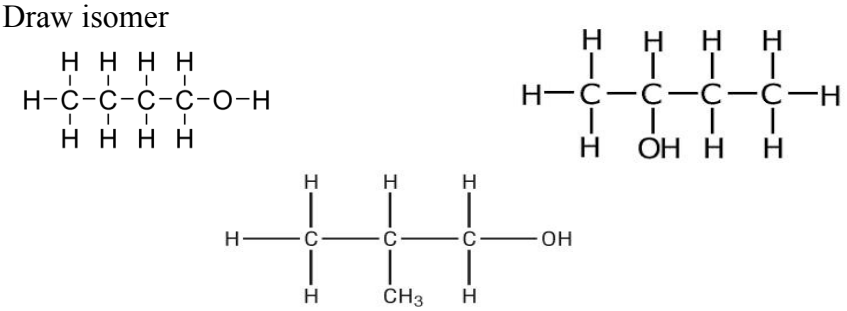
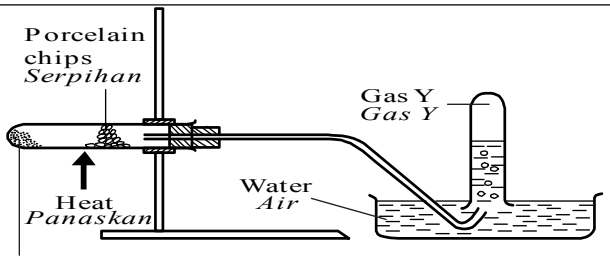
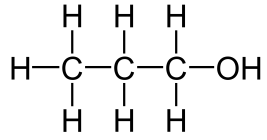
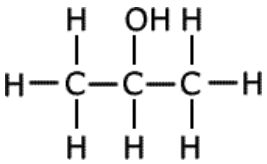
SKEMA OBJEKTIF SEBATIAN KARBON MODUL CEMERLANG

1	B	6	B	11	D	16	A	21	B
2	A	7	D	12	A	17	A	22	A
3	B	8	C	13	C	18	A	23	D
4	D	9	A	14	C	19	D	24	D
5	A	10	C	15	A	20	C	25	C

SKEMA STRUKTUR SEBATIAN KARBON MODUL CEMERLANG

Question	Explanation	Mark Σ Mark	
		Sub	Total
1(a)	Compound consist of carbon and hydrogen element only/ *sebatian yang mengandungi unsur karbon dan hidrogen sahaja*	1	
(b)	(i) Alkane/*Alkana* (ii) Buthane/*Butana*	1 1	
(c)	(i) 58	1	
	(ii) 0.12 dm^3/24mol$^-$ dm^3=0.005mol Ratio mole/nisbah mol 0.005 mol x 58 =0.29g	1 1 1	
	(iii)  1,2-dichlorobuthane *1,2-diklorobutana*	1 1	
	Total	9	
2 (a)	Alkene/Alkena	1	**1**
(b)	Draw isomer 	1 1	
(c)	Hydration/penghidratan	1	
(d)	 buthanol	1 1	

(e)	Acidified potassium dichromate//acidified potassium manganate VII *Larutan kalium dikromat VI//Larutan kalium manganat VII*	1	
(f)	*(i) $C_2H_5COOH + C_4H_9OH \rightarrow C_2H_5COOC_4H_9 + H_2O$* *Reactant,product/bahan dan hasil* *Balance /seimbang*	 1 1	
	(ii) sweet smell/colourless liquid *Bau wangi/cecair tidak berwarna*	1	
	Total	10	
3 (a)	Hydration/*Penghidratan*	1	
(b)	Phosphoric acid/*Asid fosforik*	1	
(c)	1,2-dichloropropane	1	
(d)	*$C_2H_5OH + 3O_2 \rightarrow 2CO_2 + 3H_2O$* *Reactants,product correct formulae/formula bahan dan hasil betul* *Balance/seimbang*	 1 1	
(e)	 Propan-1-ol/  Propan-2-ol	1+1 1+1	
	(i) Purple turns to colourless/ *warna unggu bertukar kepada tidak berwarna*	1	
	Total	10	

<table>
<tr><td>4 (a)</td><td colspan="2">Fat consist of carbon, hydrogen and oxygen and does not dissolve in water
Lemak terdiri daripada karbon, hidrogen dan oksigen dan tidak larut dalam air</td><td>1</td><td></td></tr>
<tr><td>(b)</td><td>Saturated Fat/lemak tepu

High melting and boiling point
Takat lebur dan didih yang tinggi

High cholesterol
Kolestrol yang tinggi

Solid state at room temperature
Keadaan pepejal pada suhu bilik

Compound consist of single bond between carbon atom
Sebatian yang mengandungi ikatan tunggal antara atom karbon</td><td>Unsaturated fat/lemak tak tepu

Low melting and boiling point
Takat lebur dan didih yang rendah

Low cholesterol
Kolestrol yang rendah

Liquid state at room temperature
Keadaan pepejal pada suhu bilik

Compound consist of double bond between carbon atom
Sebatian yang mengandungi ikatan ganda dua antara atom karbon</td><td>1

1

1

1</td><td></td></tr>
<tr><td>(c)</td><td colspan="2">-cause high cholestrol, high blood pressure,obesity, heart attack
Sebabkan kolestrol tinggi,tekanan darah tinggi,serangan jantung</td><td>1
1
1</td><td></td></tr>
<tr><td>(d)</td><td colspan="2">Catalyst Nickel/Platinum,H_2
180.0^oC</td><td>1
1</td><td></td></tr>
<tr><td></td><td colspan="2">Total</td><td>10</td><td></td></tr>
</table>

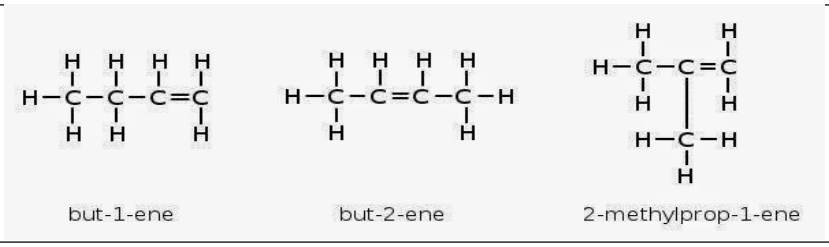
SKEMA ESEI SEBATIAN KARBON MODUL CEMERLANG

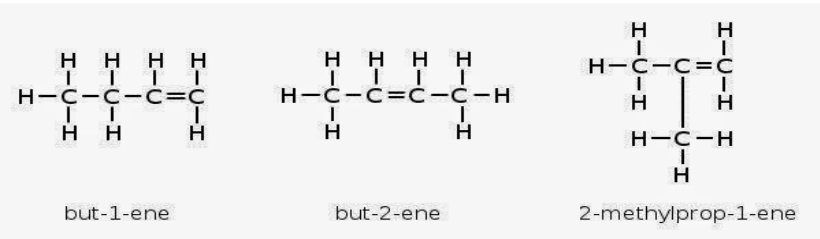
Question	Explanation	Mark Σ Mark	
1	(a) Problem statement/Pernyataan masalah	Sub	Total
	Does reagent P and Q will changed the colour of bromine water? *Adakah reagen P dan Q dapat mengubah warna air bromin?*	3	
	(b) All the variables involve Manipulated Variable: Types of reagent *Manipulasi: Jenis reagen* Responding Variable: colour changes *Bergerak balas: perubahan warna* Constant Variable: bromine water *Dimalarkan: air bromin*	3	
	(c) Lists of apparatus and materials//bahan dan alat radas Apparatus : test tubes, dropper, stopper Materials: bromine water , reagent Q and P *Alat radas dan bahan: tabung uji, penitis, gabus,air bromin,reagen P dan Q*	3	
	(d) Procedure of the experiment/Prosedur 1.2 cm^3 of liquid in bottle P is poured into two separate test tubes. *2cm^3 cecair dalam botol P dituangkan ke dalam dua tabung uji berbeza* 2. 2 to 3 drops of bromine water are added to two test tubes *2 hingga 3 titis air bromin ditambahkan ke dalam dua tabung uji* 3.Close the test tube using stopper *Tutupkan tabung uji dengan menggunakan gabus* 4.The mixture is shaken. *Campuran di digoncangkan.* 5.Any observation is recorded. *Pemerhatian di catatkan*. 6. Step 1 to 3 are repeated using liquid in bottle Q *Langkah 1 hingga 3 diulangi dengan menggunakan cecair dalam botol Q.*	5 2	

(e) Data tabulation/Penjadualan data

Observation/Pemerhatian

Types of reagen/Jenis reagen	Observation/Pemerhatian
Reagent P+ Bromine water *Reagen P + air Brom*in	
Reagent Q+Bromine water *Reagen P + air Bromin*	

2 (a)	C_4H_8 **Total**		
	 but-1-ene but-2-ene 2-methylprop-1-ene	1+1 1+1	
(b)	X:propanol/*propanol* Y: propanoic acid/*asid propanoik* Z:Propane/*propana*	1 1 1	
(c)	Chemical equation/*persamaan kimia* I : $C_4H_8 + H_2O \rightarrow C_4H_9OH$ III: $C_4H_8 + H_2 \rightarrow C_4H_{10}$	1 1	
(d)	Test Tube 1/tabung uji 1 / Test tube 2/tabug uji 2 Saturated Hydrocarbon/ *hidrokarbon tepu* / Unsaturated Hydrocarbon/ *hidrokarbon tak tepu* Compound consist of single bond between carbon atom *Sebatian yang mengandungi ikatan tunggal antara atom karbon* / Compound consist of double bond between carbon atom *Sebatian yang mengandungi ikatan ganda dua antara atom karbon* Lower percentage of carbon by mass *Peratus karbon adalah rendah* / Higher percentage carbon my mass *Peratus karbon adalah tinggi* *Calculation/kiraan* / *Calculation/kiraan* *% C: 12x6 / 86 x100 =83.72%* / *% C: 12x6 / 84 x100 =85.71%*	2 2 2 2 2	10
		20	

<table>
<tr><td>3 (a)</td><td>C_4H_8
 
but-1-ene but-2-ene 2-methylprop-1-ene</td><td>1+1

1+1</td><td></td></tr>
<tr><td>(b)</td><td>X:propanol/propanol
Y: propanoic acid/asid propanoik
Z:Propane/propana</td><td>1
1
1</td><td></td></tr>
<tr><td>(c)</td><td>Chemical equation/persamaan kimia
I : $C_4H_8 + H_2O \rightarrow C_4H_9OH$

III: $C_4H_8 + H_2 \rightarrow C_4H_{10}$</td><td>1

1</td><td></td></tr>
<tr><td>(d)</td><td><table>
<tr><td>Test Tube 1/tabung uji 1</td><td>Test tube 2/tabug uji 2</td></tr>
<tr><td>Saturated Hydrocarbon/
hidrokarbon tepu</td><td>Unsaturated Hydrocarbon/
hidrokarbon tak tepu</td></tr>
<tr><td>Compound consist of single bond between carbon atom
Sebatian yang mengandungi ikatan tunggal antara atom karbon</td><td>Compound consist of double bond between carbon atom
Sebatian yang mengandungi ikatan ganda dua antara atom karbon</td></tr>
<tr><td>Lower percentage of carbon by mass
Peratus karbon adalah rendah

Calculation/kiraan

% C: 12x6
-------- x100
86

=83.72%</td><td>Higher percentage carbon my mass
Peratus karbon adalah tinggi

Calculation/kiraan

% C: 12x6
-------- x100
84

=85.71%</td></tr>
</table></td><td>2

2

2

2

2</td><td>10</td></tr>
<tr><td></td><td>Total</td><td>20</td><td></td></tr>
</table>