ORGANIC CHEMISTRY 1

MARKING SCHEME

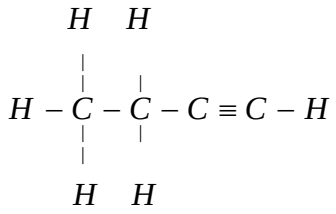
1.

	C		H	
	2×12	+	1×2	C_2H_2
(a)	3×12	+	$3\times2-2$	C_3H_4
	4×12	+	$4\times2-2$	C_4H_6

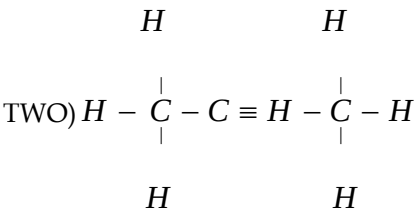
Showing how the formula is derived = (1mark)

General formula = C_nH_{2n-2} (1mark)

(b) (1mark any of the two)



(1MK FOR ANY OF THE TWO)

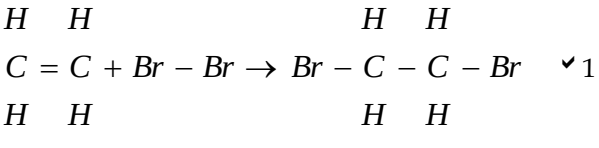


2. a) Carbon IV Oxide (1)

b) * Respiration of animals and plants
* Combustion of organic substance
* Reaction of rainwater with chalk rocks

3. a) Cracking ✔ 1
b) Strong heating ✔ 1
c) Alkenes ✔ 1

4.



Breaking of C= c bond + 610 KJ

Breaking of Br-Br Bond = 193 KJ ✔ 1
Formation of 2c – Br Bond = - 280x2 KJ ✔ 1
243KJ ✔

b) Addition reaction ✔ 1

5.

$$C = \frac{12}{44} \times 4.4 = 1.2$$

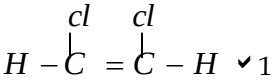
$$H = \frac{2}{18} \times 2.7 = 0.3$$ ✔ 1

$$O = 3.1 - 1.5 = 1.6$$

C	H	O	
$\frac{1.2}{12}$	$\frac{0.3}{1}$	$\frac{1.6}{16}$	✔ ½
$\frac{0.1}{0.1}$	$\frac{0.3}{0.1}$	$\frac{0.1}{0.1}$	✔ ½
1	3	1	✔ ½

Empirical formula = CH_3O ✔ ½

6. 1, 2 - dichloro ethene ✔ 1



5. a) A- Ethene ✓ ½

B- Ethanoic acid✓ ½

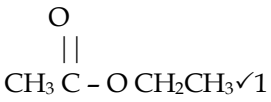
b) L-Fementation✓ ½

K-Distillation✓ ½

c) a) H_2✓1

Ni/ 250°C✓1

d)



$CH_3C - OCH_2CH_3$✓1

e) Alkenes✓1

f) $2CH_3COOH + 2Na \rightarrow 2CH_3COONa + H_{2(g)}$ ✓1

g) Decolourised✓1

A is <u>unsaturated</u> ✓1hence addition reaction will take place.

h) Manufacture of margarine / hardening oils to form fats.Any ✓1