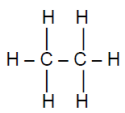
Question 1

1(d)(i)	covalent	**1**
1(d)(ii)		**1**
1(d)(iii)	chlorine	**1**
1(d)(iv)	2 (O_2) (1) CO_2 (1)	**2**

Question 2

2(e)	methane	**1**

Question 3

3(d)	carbon dioxide	**1**
	water	**1**

Question 4

4(d)	carbon dioxide (1) water (1)	**2**

Question 5

5(b)	carbon dioxide **AND** water	**1**
5(c)(i)	photochemical	**1**
5(c)(ii)	to provide the activation energy	**1**
5(c)(iii)	substitution	**1**
5(c)(iv)	2	**1**

Question 6

6(e)(i)	$C_{10}H_{22} \rightarrow C_3H_8 + C_3H_6 + C_4H_8$ **M1** $C_3H_8 + C_3H_6$ (1) **M2** rest of equation correct (1)	**2**
6(e)(ii)	cracking	**1**

Question 7

7(a)(i)	needs or uses ultra violet light	**1**
7(a)(ii)	**M1** displayed formula of 1-chlorobutane(1) **M2** displayed formula of 2-chlorobutane(1)	**2**