



**Question 9**

|      |  |   |
|------|--|---|
| 9(b) | <b>M1</b> both bonds with 2 dots and 2 crosses(1)<br><b>M2</b> 2 lone pairs<br>(all dots or all crosses) on both oxygen atoms completing all 3 octets(1) | 2 |
|------|--|---|

|          |                       |   |
|----------|-----------------------|---|
| 9(c)(ii) | intermolecular forces | 1 |
|----------|-----------------------|---|

**Question 10**

|       |   |   |
|-------|---|---|
| 10(c) | C atom double bonded to 2 O atoms<br>4 non-bonding e <sup>-</sup> on each O and no non-bonding e <sup>-</sup> on C and both octets complete | 2 |
|-------|---|---|

**Question 11**

|           |  |   |
|-----------|--|---|
| 11(b)(i)  | 2 bonding pairs as <b>one dot and cross</b> each (1)<br>2 lone pairs on S (and no additional electrons on Hs) to complete the outer shell on S and both Hs (1) | 2 |
| 11(b)(ii) | $2\text{H}_2\text{S} + \text{SO}_2 \rightarrow 3\text{S} + 2\text{H}_2\text{O}$  | 1 |

**Question 12**

|       |  |   |
|-------|--|---|
| 12(b) | <b>M1</b> all single bonding dot and cross pairs correct (1)<br><b>M2</b> double C=O bond dot and cross pairs are correct (1)<br><b>M3</b> complete diagram is correct (1) | 3 |
|-------|--|---|