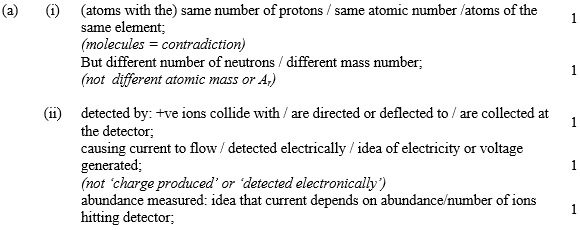
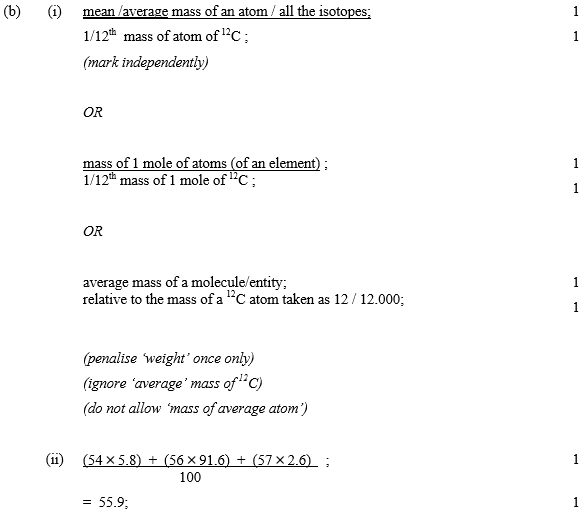
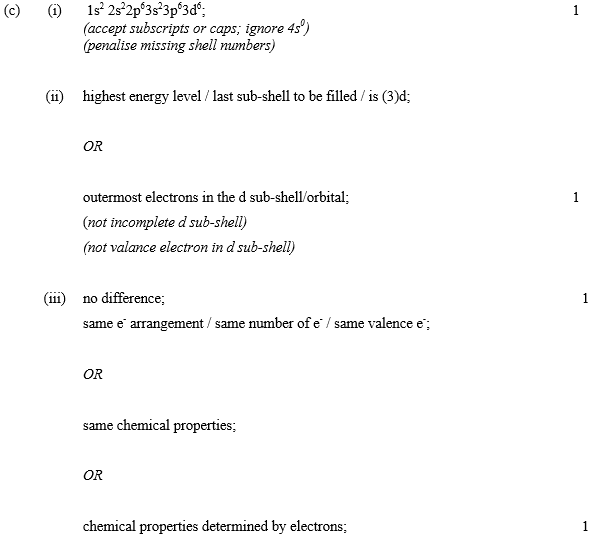
AS-LEVEL PAPER 1 PP19 MS

**1.**







**[13]**

**2.**      A chlorine atom has more protons in its nucleus than has a sodium atom

**1**

          Both have three shells of electrons

**1**

Electrons more strongly attracted by chlorine nucleus so size smaller than Na

**1**

          An electron shell is lost when a sodium ion is formed from a sodium atom

**1**

          Inner electrons more strongly attracted so ion smaller than atom

**1**

          An electron is added to the outer shell when a chloride ion is formed

**1**

Greater repulsion between shells so size of chloride ion greater than Cl atom

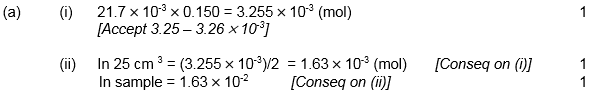
**1**

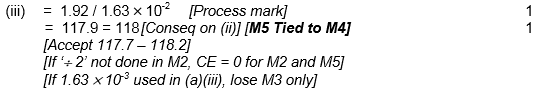
**MAX 6**

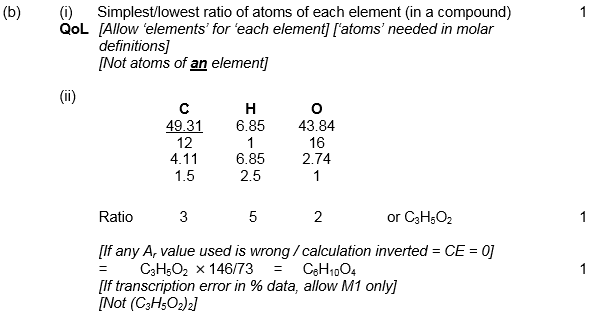
**QWC**

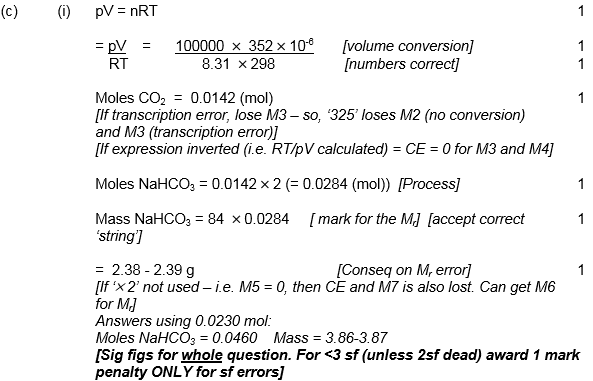
**[6]**

**3.**

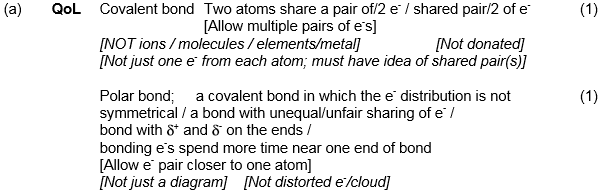
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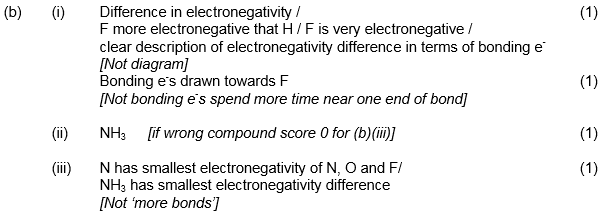
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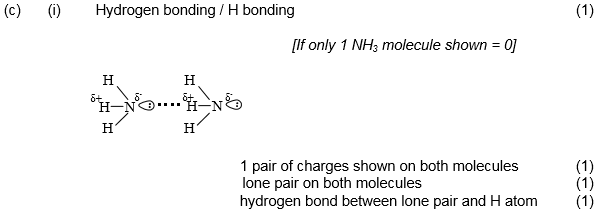
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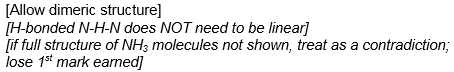
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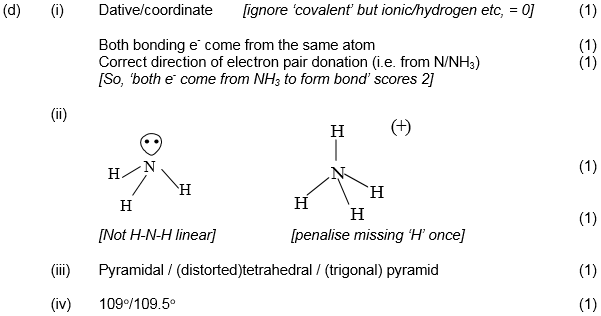
**4.**

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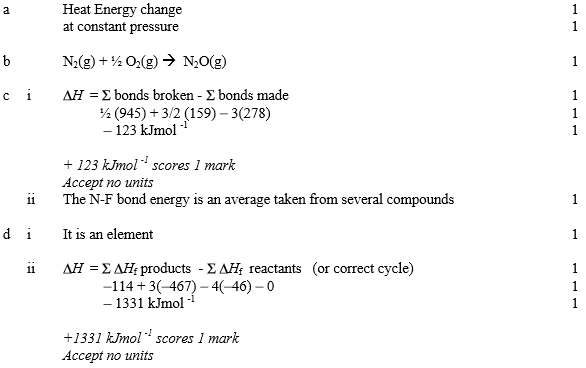
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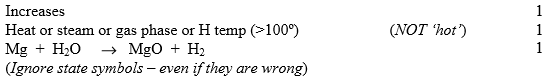


**[17]**

**5.**

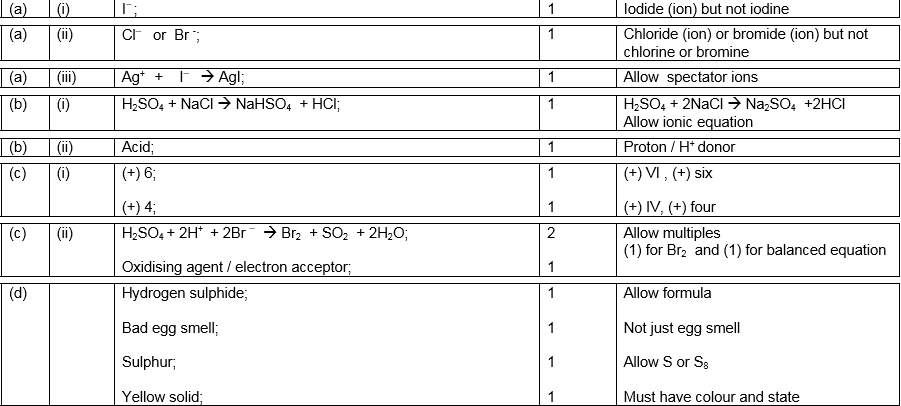
**[11]**

**6.**

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**[3]**

**7.**

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**[14]**