

Commentary on candidate evidence

The candidate evidence has achieved the following marks for each question in this course component.

Question 3

Candidate 1

The candidate was awarded **1 mark**.

This is a limited response.

The candidate has mentioned a high difference in electronegativity linking this to polarity of bonding. They have correctly identified hydrogen bonding as the strongest intermolecular interaction.

Candidate 2

The candidate was awarded **1 mark**.

This is a limited response.

The candidate has shown a limited understanding of the chemistry involved in bonding and electronegativity differences. An attempt has been made to describe dipoles with diagrams and they have linked electronegativity to polarity.

Candidate 3

The candidate was awarded **2 marks**.

This is a reasonable response.

The candidate has mentioned pure covalent, polar covalent and ionic bonding and has linked these to electronegativity. They have correctly stated that fluorine has the highest electronegativity. They have correctly drawn diagrams showing pure and polar covalent bonds.

Candidate 4

The candidate was awarded **2 marks**.

This is a reasonable response.

The candidate has correctly linked non-polar bonds and electronegativity. They have correctly drawn diagrams showing shapes of some molecules and they have correctly assigned electronegativity values to these.

Candidate 5

The candidate was awarded **3 marks**.

This is a good response.

The candidate has demonstrated a good understanding of the chemistry involved in bonding and electronegativity. They have given good descriptions of polarity in relation to electronegativity. They have identified links between electronegativity and different types of intermolecular forces and have given several examples. The candidate has described overall polarity as being dependent on the shape of the molecule and they have provided correctly drawn diagrams. The candidate has discussed properties of polar and non-polar compounds, relative strengths of intermolecular forces, and they have correctly exemplified hydrogen bonding.

Question 9

Candidate 1

The candidate was awarded **1 mark**.

This is a limited response.

The candidate has given a method of collecting and measuring a gas. They have also given an example of how actual yield can be calculated from a known percentage yield.

Candidate 2

The candidate was awarded **1 mark**.

This is a limited response.

The candidate has mentioned distillation 'to separate it from water' and has provided a correct method of collection of hydrogen gas including a diagram.

Candidate 3

The candidate was awarded **2 marks**.

This is a reasonable response.

The candidate has given an explanation of gas collection with a diagram and also an example of the determination of number of moles using molar volume and Gram Formula Mass (GFM).

Candidate 4

The candidate was awarded **2 marks**.

This is a reasonable response.

The candidate has demonstrated a reasonable understanding of the chemistry involved with their diagrams of collection methods (evaporation, distillation and gas collection). They have not given any consideration to yield.

Candidate 5

The candidate was awarded **3 marks**.

This is a good response.

The candidate has given a correct diagram and description for the collection of hydrogen. They have also given a description of the collection of a precipitate by filtration and a description of weighing by difference.

Candidate 6

The candidate was awarded **3 marks**.

This is a good response.

The candidate has shown a good understanding of chemistry involved. They have included methods used to collect and separate products for each reaction. They have attempted to show theoretical yields from the equations given using the GFM of 1 mole of desired product in each case.