

All questions are for both separate science and combined science students

Q1.

This question is about ionic compounds.

Calcium chloride is an ionic compound.

- (a) Calcium and chlorine react to produce calcium chloride.

Describe what happens to calcium atoms and chlorine atoms when the ionic compound calcium chloride is formed.

(4)

- (b) Solid calcium chloride **cannot** be electrolysed.

Give **one** reason why.

(1)

(Total 5 marks)

Q2.

This question is about hydrogen and compounds of hydrogen.

- (a) Draw a dot and cross diagram for a molecule of hydrogen chloride (HCl).

Show the outer shell electrons only.

- (b) **Figure 3** represents molecules of methane and of poly(ethene).

Figure 3



Methane is a gas at room temperature but poly(ethene) is a solid at room temperature.

Explain why methane and poly(ethene) exist in different states at room temperature.

(4)

(Total 6 marks)