Questions

Q1.

Some questions must be answered with a cross in a box (☒). If you change your mind about an answer, put a line through the box (☒) and then mark your new answer with a cross (☒).

This question is about gases.

Some damp litmus paper is placed in a gas.
The litmus paper is bleached.

Which gas bleaches damp litmus paper?

(1)

- ☐ **A** carbon dioxide
- ☐ **B** chlorine
- ☐ **C** hydrogen
- ☐ **D** oxygen

(Total for question = 1 mark)

Q2.

Some questions must be answered with a cross in a box (☒). If you change your mind about an answer, put a line through the box (☒) and then mark your new answer with a cross (☒).

This question is about elements in group 7, the halogens.

Which halogen is a green gas at room temperature and pressure?

(1)

- ☐ **A** bromine
- ☐ **B** chlorine
- ☐ **C** fluorine
- ☐ **D** iodine

(Total for question = 1 mark)

Q3.

Some questions must be answered with a cross in a box (☒). If you change your mind about an answer, put a line through the box (☒) and then mark your new answer with a cross (☒).

This question is about gases.

When sodium is added to water, hydrogen gas is produced.

Which observation shows that a gas has been produced?

(1)

- ☐ **A** a white precipitate forms
- ☐ **B** effervescence is seen
- ☐ **C** the sodium sinks in the water
- ☐ **D** the water changes to a pink colour

(Total for question = 1 mark)

Q4.

Lithium, sodium and potassium are reactive metals in group 1 of the periodic table.

In an experiment equal-sized pieces of lithium, sodium and potassium are added to separate samples of water.

A flame is produced only with potassium because potassium

(1)

- ☐ **A** is the softest metal
- ☐ **B** has the lowest melting point
- ☐ **C** is the most reactive
- ☐ **D** is the only flammable metal

(Total for question = 1 mark)

Q5.

Which of the following rows gives the colours of the group 7 elements chlorine and bromine at room temperature?

(1)

	chlorine	bromine
☒ **A**	red-brown	purple
☒ **B**	yellow-green	grey
☒ **C**	yellow-green	red-brown
☒ **D**	grey	red-brown

(Total for question = 1 mark)

Q6.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

This question is about some of the elements in group 7 of the periodic table.

Which row in the table correctly shows the colours and physical states of the elements at room temperature?

(1)

☐ **A**	iodine: purple gas	bromine: yellow liquid
☐ **B**	chlorine: pale green gas	iodine: brown solid
☐ **C**	bromine: red-brown liquid	chlorine: yellow liquid
☐ **D**	iodine: dark grey solid	bromine: red-brown liquid

(Total for question = 1 mark)

Q7.

Figure 2 shows the melting and boiling points of bromine and iodine.

element	melting point in °C	boiling point in °C
bromine	–7	59
iodine	114	184

Figure 2

Using the information in Figure 2, which row shows the physical states of these elements at 50 °C?

(1)

		bromine	iodine
☒	**A**	liquid	gas
☒	**B**	solid	liquid
☒	**C**	gas	solid
☒	**D**	liquid	solid

(Total for question = 1 mark)

Q8.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

What are the elements in group 1 of the periodic table called?

(1)

☒ **A** alkali metals
☒ **B** fullerenes
☒ **C** halogens
☒ **D** noble gases

(Total for question = 1 mark)

Q9.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

This question is about potassium and zinc.

Which of the following temperatures is most likely to be the melting point of potassium?

(1)

- ☐ **A** –63 °C
- ☐ **B** 6.3 °C
- ☐ **C** 63 °C
- ☐ **D** 630 °C

(Total for question = 1 mark)

Mark Scheme

Q1.

Question number	Answer	Mark
	B chlorine is the only correct answer. **A**, **C** and **D** are incorrect because only chlorine bleaches litmus	**(1)** **AO1 1**

Q2.

Question number	Answer	Mark
	B chlorine is the only correct answer **A**, **C** and **D** are incorrect because only chlorine is green	**(1)** **AO1 1**

Q3.

Question number	Answer	Mark
	B effervescence is seen is the only correct answer. **A**, **C** and **D** are incorrect as they are not linked to gas production	**(1)** **AO1 2**

Q4.

Question Number	Answer	Mark
	C is the most reactive **The only correct answer is C** ***A** is not correct because this is irrelevant* ***B** is not correct because this is irrelevant* ***D** is not correct because this is irrelevant*	**(1)** AO 2 1

Q5.

Question number	Answer	Mark
	C yellow-green red-brown is the only correct answer **A** gives the colours for iodine vapour and chlorine gas **B** gives the colours for solid iodine and iodine vapour **D** gives the colours for bromine liquid and iodine vapour	**(1)**

Q6.

Question number	Answer	Mark
	D iodine: dark-grey solid bromine: red-brown liquid Is the only correct answer **A**, **B** and **C** all contain at least one incorrect piece of information	**(1)** **AO1**

Q7.

Question number	Answer	Mark
	D liquid solid is the only correct answer **A**, **B** and **C** are incorrect because bromine is a liquid and iodine is a solid at 50 °C	**(1)**

Q8.

Question number	Answer	Mark
	A alkali metals **A** is the only correct answer. **B** is incorrect because fullerenes are not a group in the periodic table **C** is incorrect because halogens are group 7 **D** is incorrect because noble gases are group 0	**(1)**

Q9.

Question number	Answer	Mark
	C 63 °C Is the only answer. **A** would be a gas at room temperature **B** would be a liquid at room temperature **D** alkali metals have low melting points – this is too high	**(1)** **AO1**