

Paper 1

Questions are applicable for both core and extended candidates

- 1 Which statement about the ions formed by the elements in Group VII of the Periodic Table is correct?
- A** All the ions have the same charge of 1–.
- B** All the ions have the same number of electron shells.
- C** Each ion is formed by losing one electron.
- D** Each ion has seven electrons in its outer electron shell.
- 2 Which statement about the properties of elements in Group I or in Group VII is correct?
- A** Bromine displaces iodine from an aqueous solution of potassium iodide.
- B** Chlorine, bromine and iodine are diatomic gases at room temperature.
- C** Lithium, sodium and potassium are soft non-metals.
- D** Lithium, sodium and potassium have an increasing number of electrons in their outer shells.
- 3 Which row describes a similarity and a difference between chlorine and bromine?

	similarity	difference
A	both are gases at room temperature and pressure	chlorine and bromine have different colours
B	both exist as diatomic molecules	chlorine is more dense than bromine
C	both have atoms with seven outer-shell electrons	only bromine will react with aqueous sodium chloride
D	both react with aqueous potassium iodide	chlorine is more reactive than bromine

- 4 Chlorine, bromine and iodine are elements in Group VII of the Periodic Table. Which statement about these elements is correct?
- A** The colour gets lighter down the group.
- B** The density decreases down the group.
- C** They are all gases at room temperature and pressure.
- D** They are all non-metals.

5 Some properties of the elements in Group VII of the Periodic Table are shown.

element	melting point/ $^{\circ}\text{C}$	boiling point/ $^{\circ}\text{C}$	colour
F	-220	-188	pale yellow
Cl	-101	-35	green
Br	-7	59	brown
I	114	184	
At	302	380	

Which statement is correct?

- A** Bromine is a brown solid at room temperature.
- B** Fluorine is a pale yellow gas at room temperature.
- C** Iodine is a brown liquid at room temperature.
- D** Astatine is a black liquid at room temperature.

Paper 2

Questions are applicable for both core and extended candidates unless indicated in the question

- 6 Astatine is below iodine in Group VII in the Periodic Table.

Which row describes the properties of astatine?

	state at room temperature	reactivity
A	gas	displaces chlorine, bromine and iodine
B	gas	displaces iodine but does not displace chlorine or bromine
C	solid	displaces iodine but does not displace chlorine or bromine
D	solid	does not displace chlorine, bromine or iodine

- 7 Chlorine, bromine and iodine are elements in Group VII of the Periodic Table.

Which statement about these elements is correct?

- A** The colour gets lighter down the group.
- B** The density decreases down the group.
- C** They are all gases at room temperature and pressure.
- D** They are all non-metals.