Paper 1

Questions are applicable for both core and extended candidates

1 Which statement explains why graphite is used as a lubricant?

A Each carbon atom in graphite forms three bonds.

B The bonding in graphite is covalent.

C The carbon atoms are arranged in hexagons.

D There are weak forces of attraction between the layers of carbon atoms.

2 Which statement about graphite explains why it is used as an electrode?

A It contains ions.

B It has a giant covalent structure.

C It is a metal.

D It has mobile electrons.

3 Which use of graphite depends on the layers of carbon atoms being able to slide over each other?

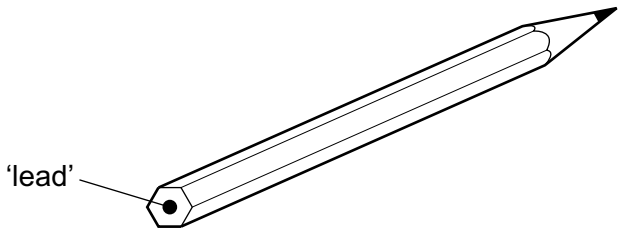
A cutting tools

B electrodes

C jewellery

D lubricant

4 The 'lead' in a pencil is made of a mixture of graphite and clay.



When the percentage of graphite is increased, the pencil moves across the paper more easily.

Which statement explains this observation?

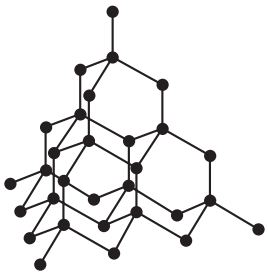
A Graphite has a high melting point.

B Graphite is a form of carbon.

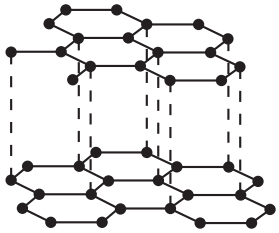
C Graphite is a lubricant.

D Graphite is a non-metal.

5 Which pair of statements about diamond and graphite is correct?



diamond



graphite

A Diamond and graphite are both pure carbon. They are both macromolecules.

B Diamond and graphite can both be used as electrodes. Graphite is also used as a lubricant.

C Diamond has covalent bonds. Graphite has ionic bonds.

D Diamond is hard with a high melting point. Graphite is soft with a low melting point.

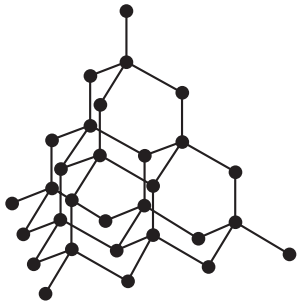
6 Which row describes the bonding in graphite and a use of graphite?

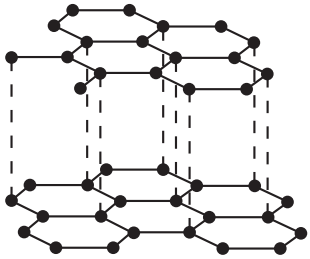
	bonding in graphite	a use of graphite
A	each atom is bonded covalently to three other atoms	in cutting tools
B	each atom is bonded covalently to three other atoms	as an electrical conductor
C	each atom is bonded covalently to four other atoms	in cutting tools
D	each atom is bonded covalently to four other atoms	as an electrical conductor

Paper 2

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

7 The structures of diamond and graphite are shown.





Which statement about diamond and graphite is correct?

A Diamond and graphite contain strong covalent bonds between carbon atoms.

B Diamond and graphite have delocalised electrons.

C Diamond and graphite have layered structures.

D Diamond and graphite have low melting points.

8 Which statement about graphite explains why it is used as an electrode?

A It contains ions.

B It has a giant covalent structure.

C It is a metal.

D It has mobile electrons.

9 Which substance has a similar structure to silicon(IV) oxide? **(extended only)**

A carbon dioxide

B diamond

C graphite

D sodium oxide

10 Graphite has a giant covalent structure.

Which statements about graphite are correct?

1 Carbon atoms form four covalent bonds with neighbouring atoms.

2 There are delocalised electrons between layers of carbon atoms.

3 Graphite is a useful lubricant.

4 Graphite is a good conductor of electricity.

A 1 and 2 **B** 1, 3 and 4 **C** 2, 3 and 4 **D** 3 and 4 only