Paper 1

Questions are applicable for both core and extended candidates

1 Which statement about stainless steel is correct?

A All atoms in stainless steel are the same size.

B Stainless steel is a mixture of copper and zinc.

C Stainless steel is an iron compound.

D Stainless steel is stronger than pure iron.

2 Which description of brass is correct?

A a compound of copper and zinc

B a compound of copper and tin

C a mixture of copper and zinc

D a mixture of copper and tin

3 Which property of stainless steel makes it suitable for making cutlery?

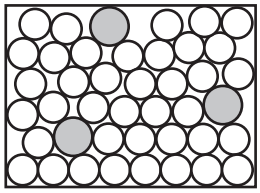
A It conducts electricity.

B It has a high melting point.

C It is resistant to rusting.

D It is ductile.

4 The diagram represents the structure of a solid.

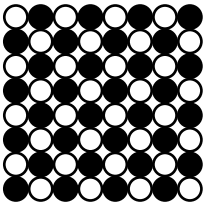


Which solids does the diagram represent?

	brass	graphite	sodium chloride
A	✓	✓	✗
B	✓	✗	✗
C	✗	✓	✓
D	✗	✗	✓

5 Which diagram represents a solid alloy?

A



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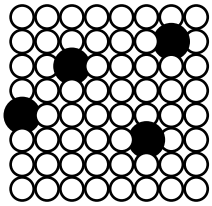

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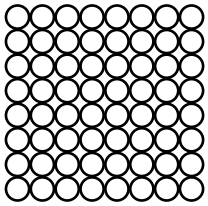

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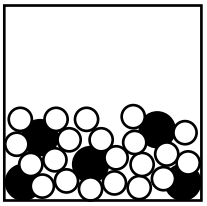

6 Which row identifies an alloy, a pure metal and a non-metal?

	alloy	pure metal	non-metal
A	brass	carbon	copper
B	brass	copper	carbon
C	copper	brass	carbon
D	copper	carbon	brass

7 Which statement about an alloy is correct?

A It is a compound made of two or more elements, one of which is a metal.

B It is a layer of a metal plated onto another metal.

C It is a mixture of a metal with one or more other elements.

D It is a single element.

Paper 2

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

8 Brass is an alloy that is formed from copper and zinc.

Which statements are correct?

1 Brass, copper and zinc all conduct electricity.

2 Brass is a compound of copper and zinc.

3 Brass is harder than zinc.

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

9 Steel is an alloy of iron.

Which statement explains why steel is stronger than iron? **(extended only)**

A Steel contains carbon which is a very hard substance.

B The carbon atoms in steel bond together very strongly.

C The carbon atoms in steel make the iron atoms bond together very strongly.

D The carbon atoms prevent layers of iron atoms from sliding over each other.

10 Which statements about the metal zinc are correct?

1 It is extracted from the ore bauxite.

2 It is used to galvanise steel.

3 It is used to make the alloy brass.

4 It reacts with dilute hydrochloric acid to produce hydrogen gas.

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

11 Which row compares the strength of alloys with pure metals and explains the difference in strength? **(extended only)**

	strength of an alloy compared to a pure metal	explanation
A	weaker	larger atoms slide more easily over smaller atoms
B	weaker	larger atoms make it harder for layers to slide over one another
C	stronger	larger atoms slide more easily over smaller atoms
D	stronger	larger atoms make it harder for layers to slide over one another

12 Metal M is mixed with copper to produce brass.

What is M?

A chromium

B nickel

C vanadium

D zinc