

## O Level Pure Chemistry MCQs

### Metals Test 5.0

Q1

Four stages in extracting iron from iron ore are listed below.

- I carbon dioxide react with coke
- II limestone, haematite, coke and hot air are added
- III basic oxides remove impurities
- IV haematite is reduced

In which order do these stages occur?

- |          |                          |          |                          |
|----------|--------------------------|----------|--------------------------|
| <b>A</b> | <b>I → II → III → IV</b> | <b>B</b> | <b>I → IV → II → III</b> |
| <b>C</b> | <b>II → I → IV → III</b> | <b>D</b> | <b>II → IV → I → III</b> |

Q2

Which statement about the production of iron from haematite is correct?

- A** Haematite is oxidized by carbon monoxide.
- B** Hot waste gases containing carbon monoxide, carbon dioxide and nitrogen escape through the top of the furnace.
- C** Molten iron floats on slag at furnace base.
- D** The main purpose of limestone is used to produce carbon dioxide.

Q3

Which statements about the general properties of metals are correct?

- 1. conduct electricity when molten
- 2. form amphoteric oxides only
- 3. high melting point

- |          |                |          |                |          |                |          |                   |
|----------|----------------|----------|----------------|----------|----------------|----------|-------------------|
| <b>A</b> | <b>1 and 2</b> | <b>B</b> | <b>1 and 3</b> | <b>C</b> | <b>2 and 3</b> | <b>D</b> | <b>1, 2 and 3</b> |
|----------|----------------|----------|----------------|----------|----------------|----------|-------------------|

Q4

What happens when a piece of magnesium ribbon is placed in cold water?

- A bubbles of gas form slowly on the surface of the magnesium ribbon
- B magnesium sinks to the bottom and reacts quickly
- C magnesium glows brightly and a white solid is produced
- D vigorous effervescence is observed

Q5

Which row correctly compares the physical properties high carbon steel with low carbon steel?

	high carbon steel	low carbon steel
A	stronger	more brittle
B	stronger	more easily bent into shapes
C	weaker	more brittle
D	weaker	more easily bent into shapes

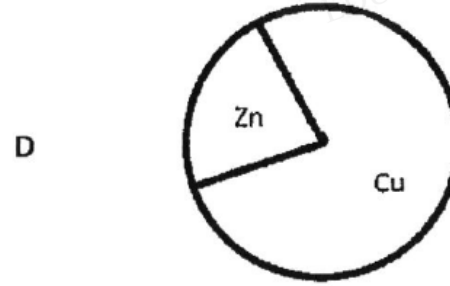
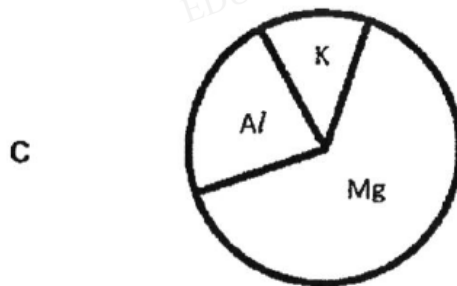
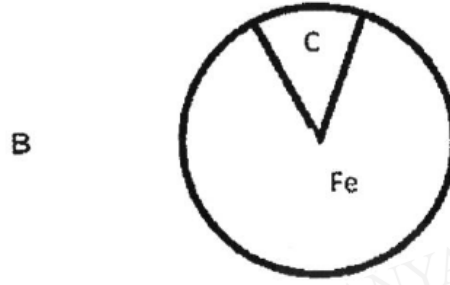
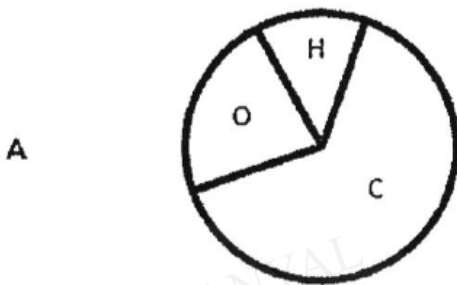
Q6

Which statement about the production of iron from iron(III) oxide in a blast furnace is correct?

- A Iron(III) oxide is reduced by carbon dioxide to iron
- B Iron is obtained by using carbon monoxide as an oxidising agent
- C Molten iron floats on top of molten slag at the base of the furnace
- D The reaction between iron(III) oxide and carbon monoxide liberates carbon dioxide

Q7

The composition of elements in four substances is shown in the pie charts below. Which of the following does not show the composition of alloys?



Q8

Which oxide can be reduced to the metal using hydrogen?

- A calcium oxide
- B lead (II) oxide
- C sodium oxide
- D zinc oxide

Q9

Which of the following does not produce carbon dioxide?

- A heating potassium carbonate
- B adding dilute hydrochloric acid to copper(II) carbonate
- C burning methane in excess oxygen
- D fermentation of glucose

Q10

Why is recycling of metals encouraged in Singapore?

- A Extracting metals is an expensive process.
- B Toxic gases are given off during recycling.
- C Recycling metals uses up a lot of raw materials.
- D It is tedious to separate metals from non-metals.

**Answers**

**Metals Test 5.0**

Q1 C

Q2 B

Q3 B

Q4 A

Q5 B

Q6 D

Q7 A

Q8 B

Q9 A

Q10 A

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