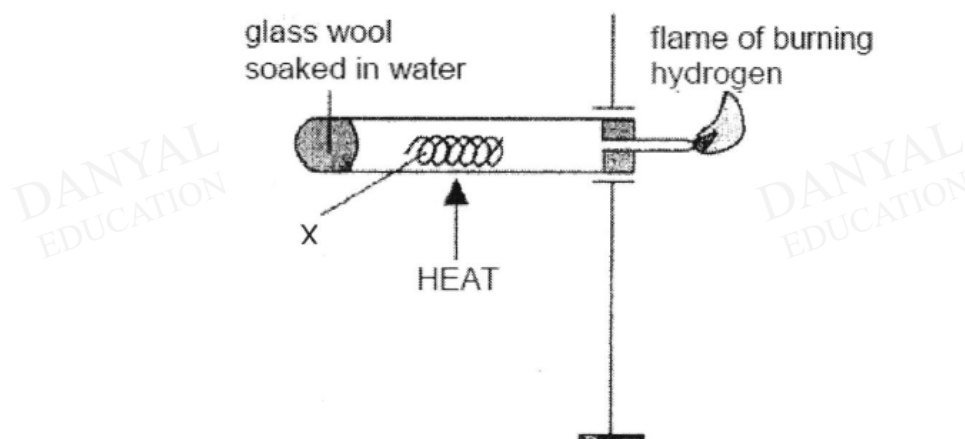


O Level Pure Chemistry MCQs

Metals Test 4.0

Q1

Based on the setup as shown in the diagram below, what is substance X most likely to be?



- A X is a metal below hydrogen in the reactivity series.
- B X is a metal above hydrogen in the reactivity series.
- C X is an oxide of a metal that is below hydrogen in the reactivity series.
- D X is an oxide of a metal that is above hydrogen in the reactivity series.

Q2

The mass of an iron strip decreased from 10 g to 8 g after being placed in a beaker of solution X for some time. The mass of an identical iron strip remained the same after being placed in a beaker of solution Y for the same amount of time. Predict the identity of the solutions X and Y.

	X	Y
A	Copper(II) sulfate	Lead (II) nitrate
B	Calcium chloride	Zinc sulfate
C	Silver nitrate	Magnesium sulfate
D	Sodium chloride	Copper(II) chloride

Q3

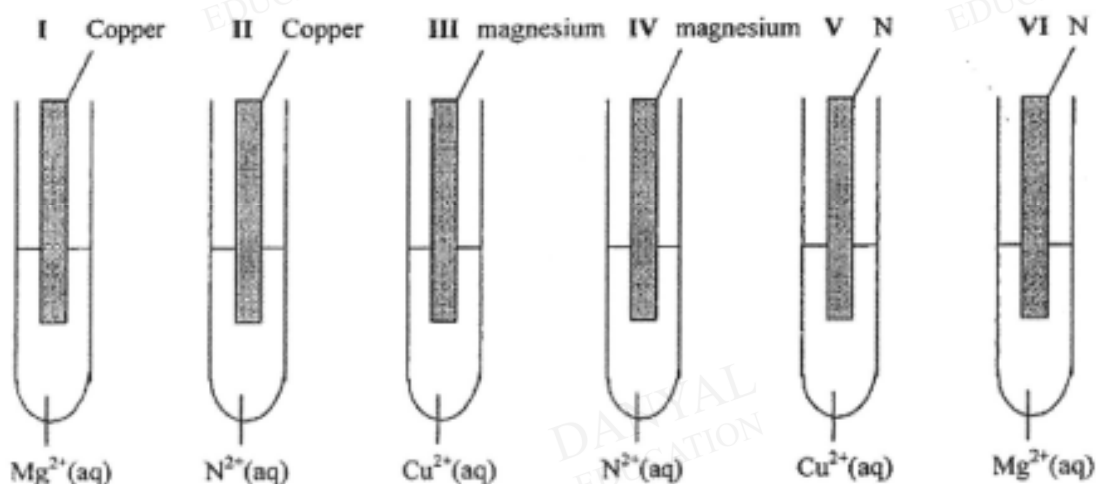
N is an unknown metal.

A student did the following experiments to compare the reactivity of magnesium, copper and metal N.

Six tubes were arranged as shown in the diagrams below. Each tube contained a piece of metal half immersed in an aqueous solution containing ions of one of the other two metals. The following observations were made:

There was a deposit seen in only three tubes including tube V.

There was no deposit in tube VI.



Which of the two tubes, besides tube V contain a deposit?

- A I and II
- B II and III
- C II and IV
- D III and IV

Q4

The element J liberates hydrogen from dilute hydrochloric acid although it does not react with cold water. When a piece of J is placed into nickel(II) chloride solution, the green solution turns colourless and a grey deposit is formed.

Which of the following gives the correct order of decreasing reactivity of J, nickel and calcium?

- A calcium, J, nickel
- B calcium, nickel, J
- C J, calcium, nickel
- D nickel, J, calcium

Q5

Which of following reactions does **not** occur in a blast furnace in the extraction of iron?

- A $\text{CaO} + \text{CO}_2 \rightarrow \text{CaCO}_3$
- B $\text{CaO} + \text{SiO}_2 \rightarrow \text{CaSiO}_3$
- C $\text{CO}_2 + \text{C} \rightarrow 2\text{CO}$
- D $\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2$

Q6

Which of the following metals requires the **least** energy to be extracted from its ore?

- A copper
- B iron
- C lead
- D zinc

Q7

Alloy X is strong and has a low density.
Alloy Y is heavy but is resistant to corrosion.

Which could be possible uses of X and Y?

	bridge supports	aircraft	overhead cables
A	X	X	Y
B	X	Y	Y
C	Y	X	X
D	Y	Y	X

Q8

Over 90% of all gold but less than 50% of iron is recycled.

What is the reason for this difference?

- A Gold is very scarce.
- B Iron does not cause land pollution.
- C Iron ores will never run out.
- D It is more expensive to purify gold.

Q9

The solid carbonates of three metals W, X and Y are heated.

	result
carbonate of W	carbon dioxide given off solid changes colour from green to black
carbonate of X	carbon dioxide given off solid does not change colour
carbonate of Y	carbon dioxide not given off solid does not change colour

Which statements are correct?

- 1 Metal Y is a stronger reducing agent than metal X.
- 2 Metal W could be used as a catalyst.
- 3 Only the carbonates of W and X give off carbon dioxide when added to dilute nitric acid.

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

Q10

Which of the following metals can be used as a sacrificial metal to prevent iron from rusting?

- A copper
- B silver
- C sodium
- D zinc

Answers

Metals Test 4.0

Q1 B

Q2 C

Q3 D

Q4 A

Q5 A

Q6 A

Q7 C

Q8 A

Q9 A

Q10 D

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