

07ZZ09-26

**A**

This is known as metal displacement reaction. A metal will displace (take the place of) a less reactive metal in a metal salt solution.

If a less reactive metal is added to a metal salt solution there will be no reaction.

B: For example, mercury is less reactive than copper:  
mercury + copper(II) sulphate → no reaction.

C: copper(II) hydroxide is not a salt

D: copper(II) carbonate is insoluble in water



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**C**

Metals I and J are more reactive than G and H. This is because G and H are reduced when its oxide is heated with hydrogen (metals low in the reactivity series are reduced more easily).

I is more reactive than J as it displaces J from J sulphate solution.

G is more reactive than H as G reacts with acid and H does not.



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**C**

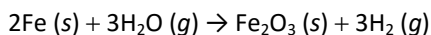
i: W is the least reactive out of the four metals.

ii: Y is the most reactive metal as it must be extracted by electrolysis.

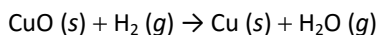
iii: Z is more reactive than X.



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**C**

The hydrogen gas produced travels to the next chamber, where it reduces copper(II) oxide to copper.




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**B** I and IV

The further the two metals in the electrochemical series, the greater the potential difference (voltage) produced.



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**B** Cell 2.

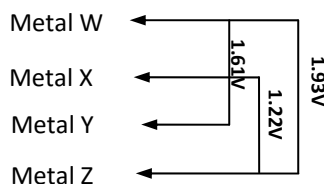
Metal that is more electropositive (higher position in the electrochemical series) will be easily ionized. It acts as the negative terminal.



M06-01-25

**A** 0.39V

A more electropositive metal acts as the negative terminal.



Potential difference of the pair of metals X and Y  
= 1.61 – 1.22 = 0.39V



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**C** Between lead and copper


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**D** Magnesium      Magnesium chloride

Magnesium is placed the highest in the electrochemical series among zinc, aluminum and iron.



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**A** P, S, R, Q

P is copper, Q is magnesium, R is zinc and S is lead. In the electrochemical series, the ascending order of the tendency of the metals to form ions is copper, lead, zinc and magnesium.

