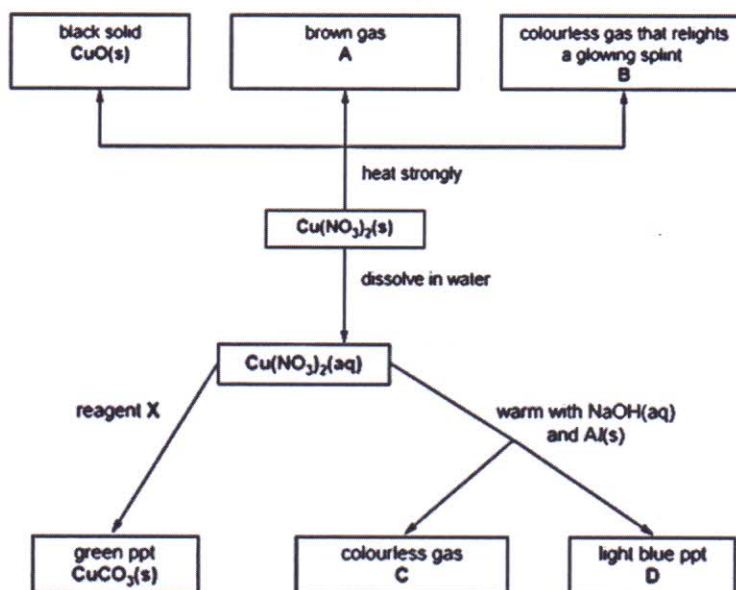


Q.2 The flow chart shows some reactions of copper (II) nitrate, $\text{Cu}(\text{NO}_3)_2$.



(a) When two moles of $\text{Cu}(\text{NO}_3)_2$ is heated strongly, two moles of CuO , four moles of A and one mole of B are made.

(i) Write the formula for B.

.....[1]

(ii) Construct the equation for the action of heat on $\text{Cu}(\text{NO}_3)_2$.

.....[2]

(b) Aqueous copper(II) nitrate is warmed with aqueous sodium hydroxide and aluminium powder. Name C and D.

C is

D is [2]

(c) Suggest the name of reagent X and construct the ionic equation, with state symbols, for the formation of the green precipitate, $\text{CuCO}_3(\text{s})$.

name of reagent X

ionic equation [3]

[Total: 8]

Q.3 Electrolysis involves the chemical decomposition of a compound, either when molten or in aqueous solution, by the passage of an electric current.

(a) Explain why aqueous calcium nitrate can be electrolysed but liquid pentane cannot.

.....

 [2]

(b) State the products of the electrolysis of molten sodium chloride.

..... [1]

(c) State the products of the electrolysis of concentrated aqueous sodium chloride.

..... [1]