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Class - 10

Chapter - 1

Chemical Reactions and Equations

Part-7

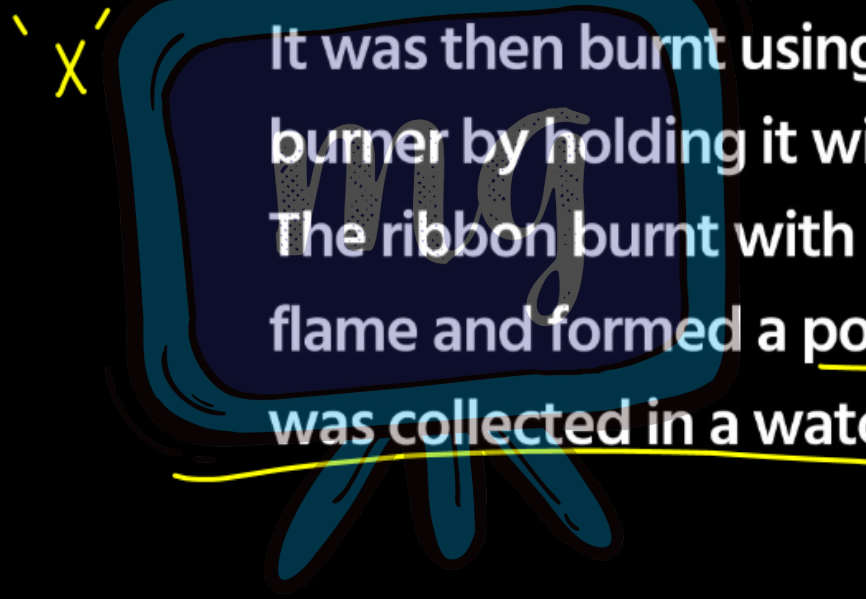
Practice Questions

Disha Didi
(DD)

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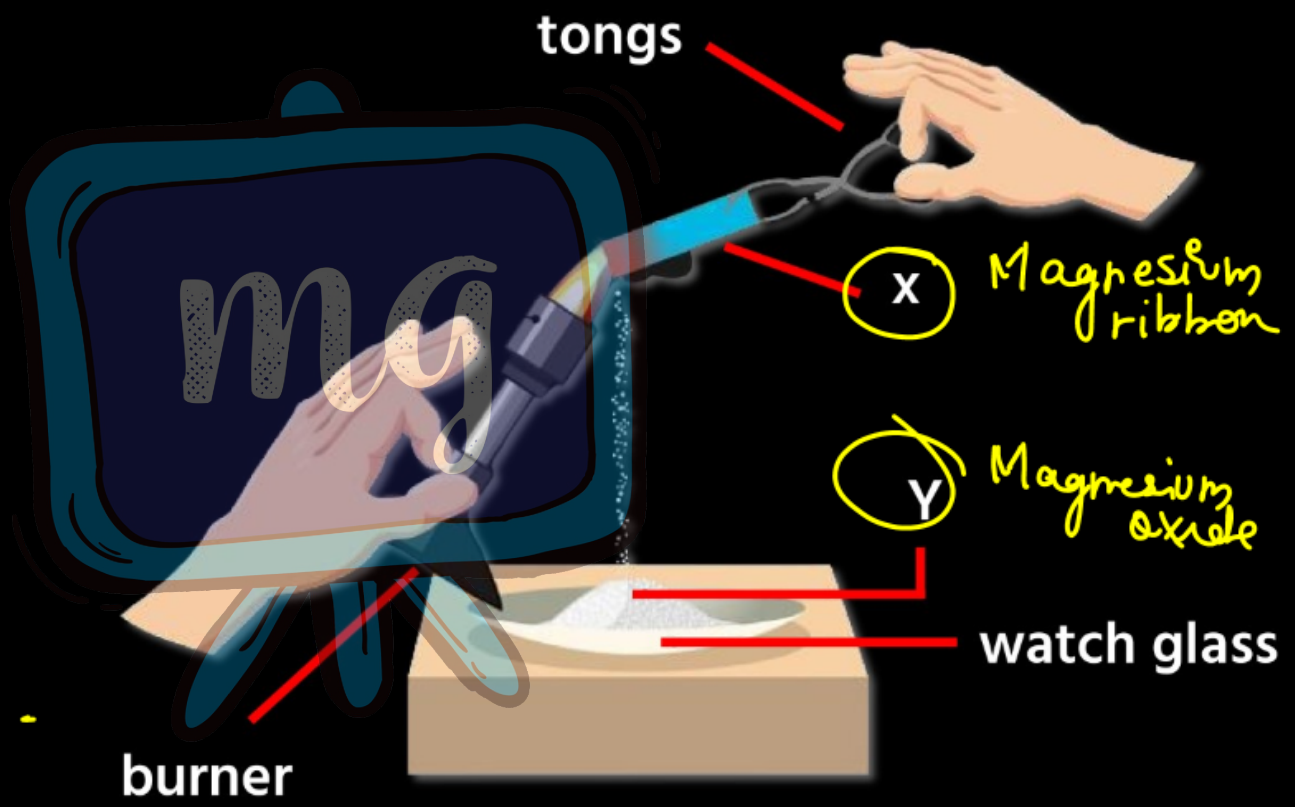
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Q1. A 2 cm long thin ribbon of a metal 'X' was taken and first cleaned with a sandpaper. It was then burnt using a spirit lamp or burner by holding it with a pair of tongs. The ribbon burnt with a dazzling white flame and formed a powder 'Y' which was collected in a watch glass.



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A. Which option correctly identifies both X and Y?

X – Mg.
Y – MgO.
C

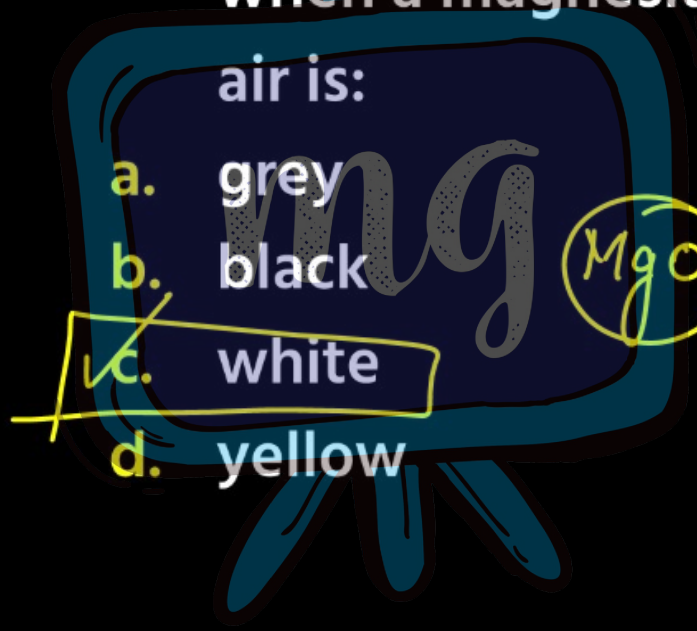
	X	Y
(a)	Magnesium	Magnesium carbonate
(b)	Aluminium	Aluminium oxide
(c)	Magnesium	Magnesium oxide
(d)	Iron	Iron oxide

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B. The colour of powder or ash formed when a magnesium ribbon is burnt in air is:

a. grey
b. black
c. white
d. yellow

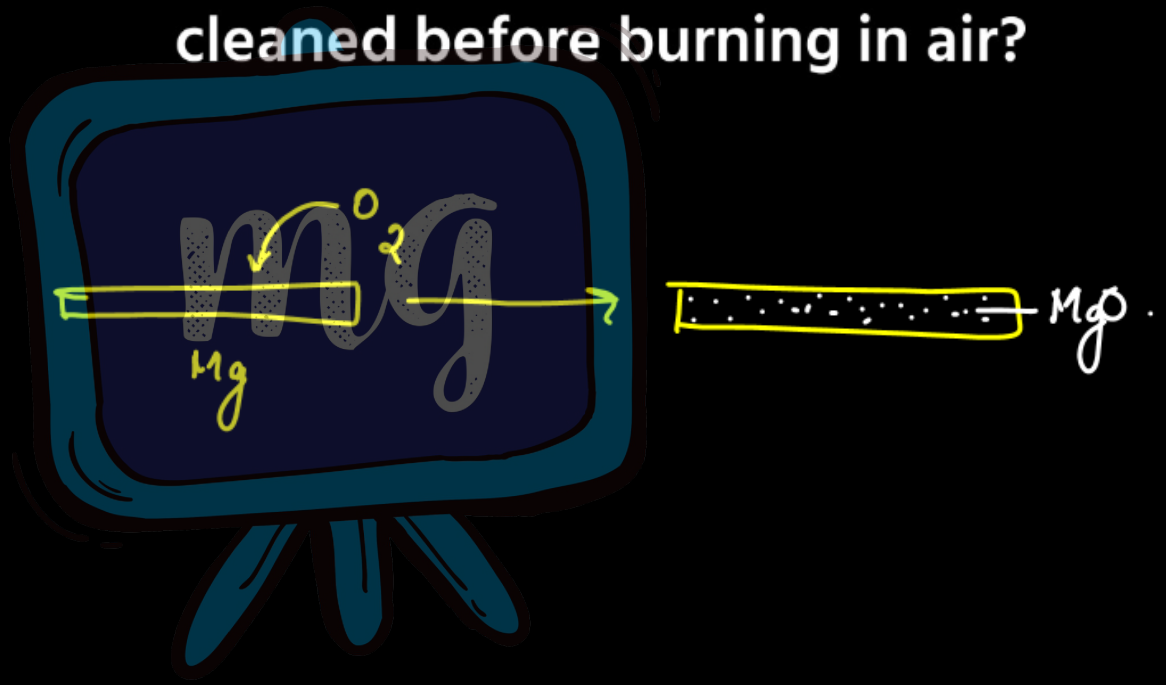


MgO → ash → white

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C. Why should a magnesium ribbon be cleaned before burning in air?



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100/100

D. Is burning of magnesium ribbon a physical change or a chemical change? Justify your answer.

$Mg + O_2 \rightarrow MgO$.

→ dazzling white flame : light

→ new product - MgO.

→ irreversible



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E. Assertion (A) : Magnesium ribbon burns with a dazzling white flame.

Reason (R) : When magnesium ribbon burns in air, only heat is evolved.

True

False

→ light and heat ✓

A → True

R → False

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a. Both (A) and (R) are true and (R) is the correct explanation of (A).

b. Both (A) and (R) are true but (R) is not the correct explanation of (A).

c. (A) is true, but (R) is false.

d. (A) is false, but (R) is true.

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X - CaO

Q2. A solution of a substance 'X' is used for white washing.

a. Name the substance 'X' and write its formula.

b. Write the reaction of the substance 'X' named in above with water.

X → white washing

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Co

C
Carbon

Ca

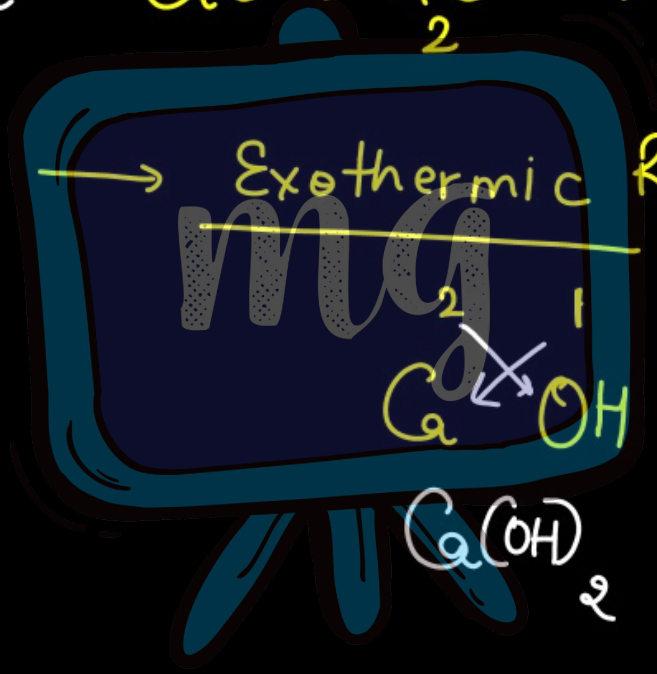
Cd

Cr

Cl

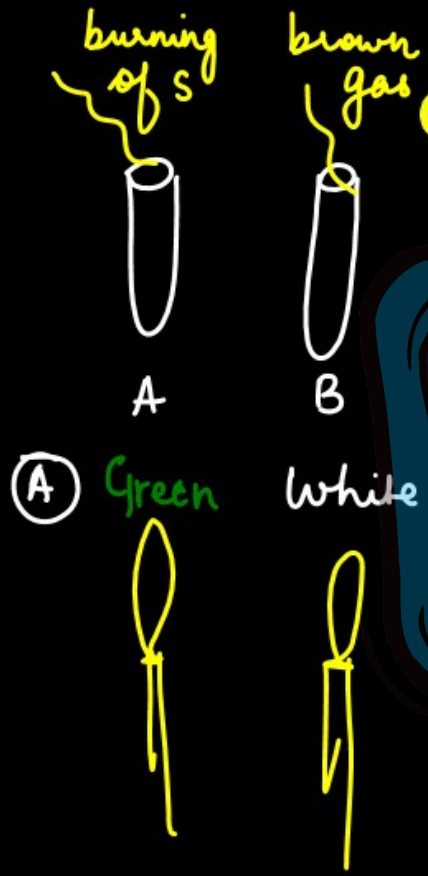
$CaO + H_2O \longrightarrow Ca(OH)_2 + \triangle$

→ Exothermic Reaction



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Q3. Amit took two boiling tubes, he added about 2 grams of a green coloured metal salt 'A' in the first tube and 2 grams of a white coloured metal salt 'B' in the second tube. Both the tubes were heated by holding them with a pair of tongs. Smell of burning sulphur was observed in first test tube whereas brown gas was emitted in the second test tube.

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(A) $FeSO_4 \cdot 7H_2O$

$\downarrow \Delta$

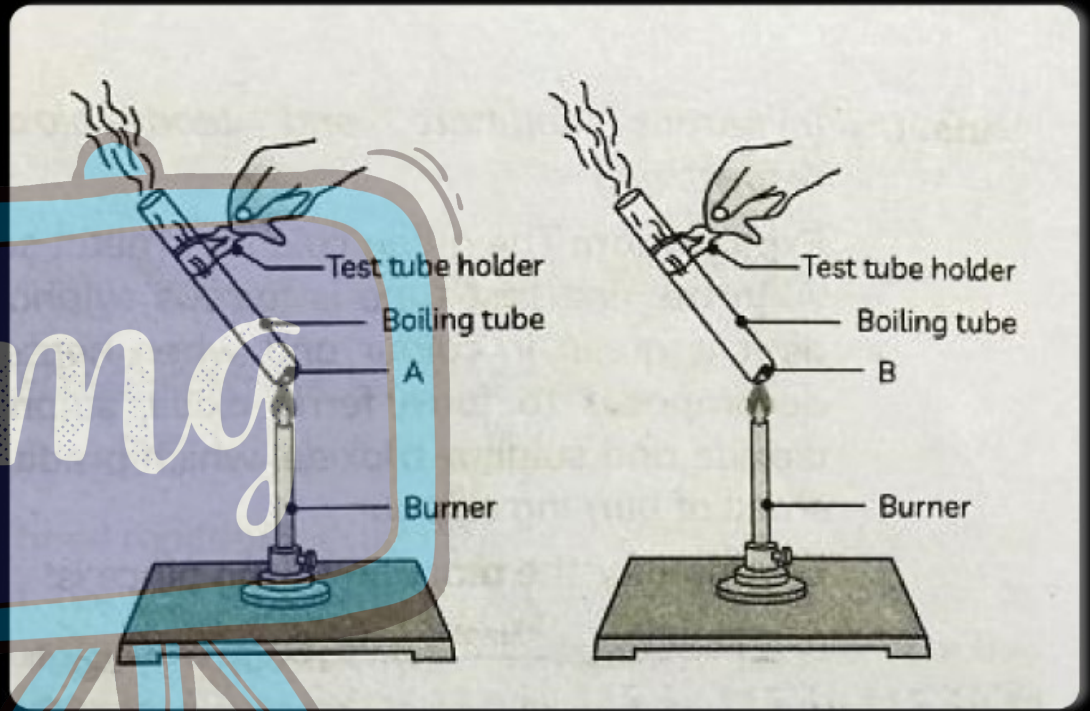
$FeSO_4$

$\downarrow \Delta$

Fe_2O_3

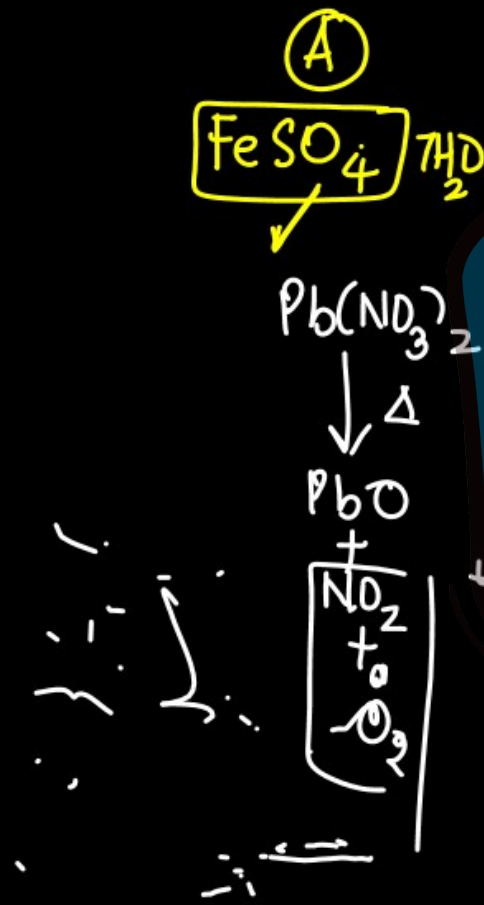
$+$

$SO_2(g) + SO_3(g)$



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A. The salts 'A' and 'B' are:

a. ferrous nitrate and lead sulphate respectively.

b. ferric oxide and lead nitrate respectively.

c. ferrous sulphate and lead nitrate respectively.

d. ferric oxide and lead sulphate respectively.

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B. Assertion (A) : Green coloured ferrous sulphate crystals on heating first changes to white and then to brownish black

True

Reason (R) : Ferrous sulphate crystals contain seven molecules of water of crystallisation.

True

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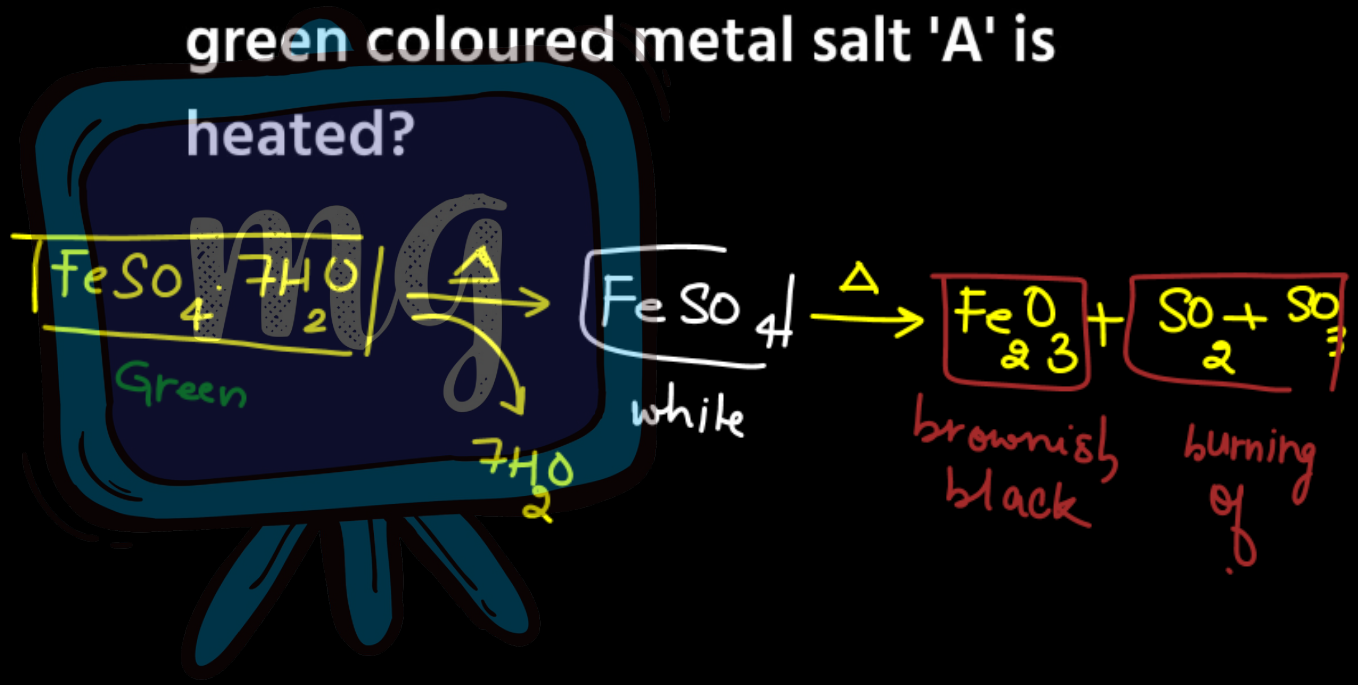
(a)

a. Both (A) and (R) are true and (R) is the correct explanation of (A).
b. Both (A) and (R) are true but (R) is not the correct explanation of (A).
c. (A) is true, but (R) is false.
d. (A) is false, but (R) is true.

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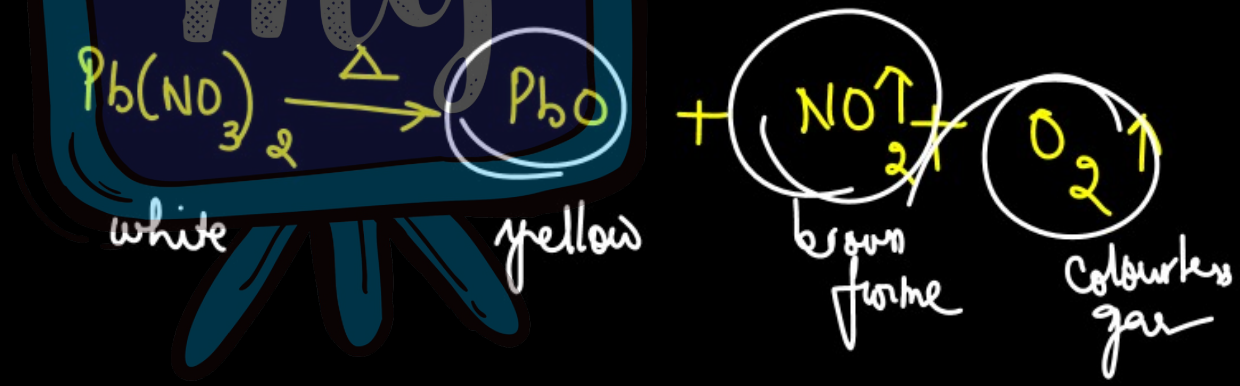
C. What are the products formed when green coloured metal salt 'A' is heated?



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D. On heating white coloured metal salt 'B', two gases are evolved, one is colourless and the other is brown in colour. Which gases are they?



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E. In which of the following category will you put the reaction of heating ferrous sulphate and lead nitrate?

(I) Decomposition reaction

(II) Combination reaction

(III) Endothermic reaction

(IV) Exothermic reaction

a. Only (I)

b. Only (II)

c. Both (I) and (III)

d. Both (II) and (IV)

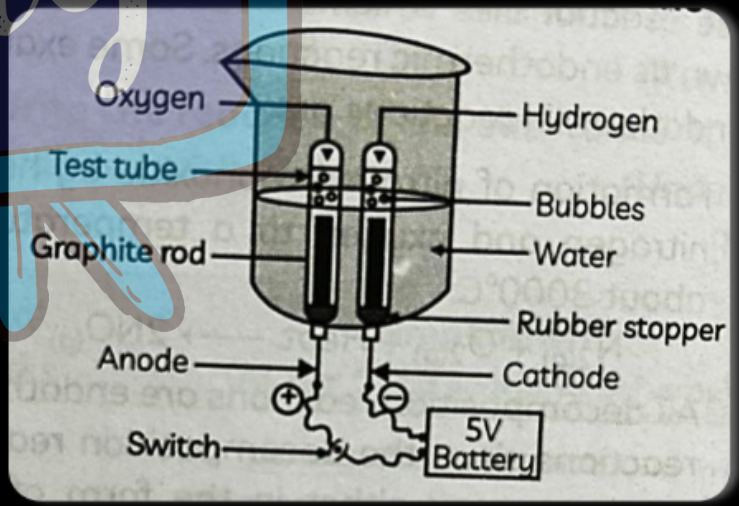
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Electrolysis of H_2O

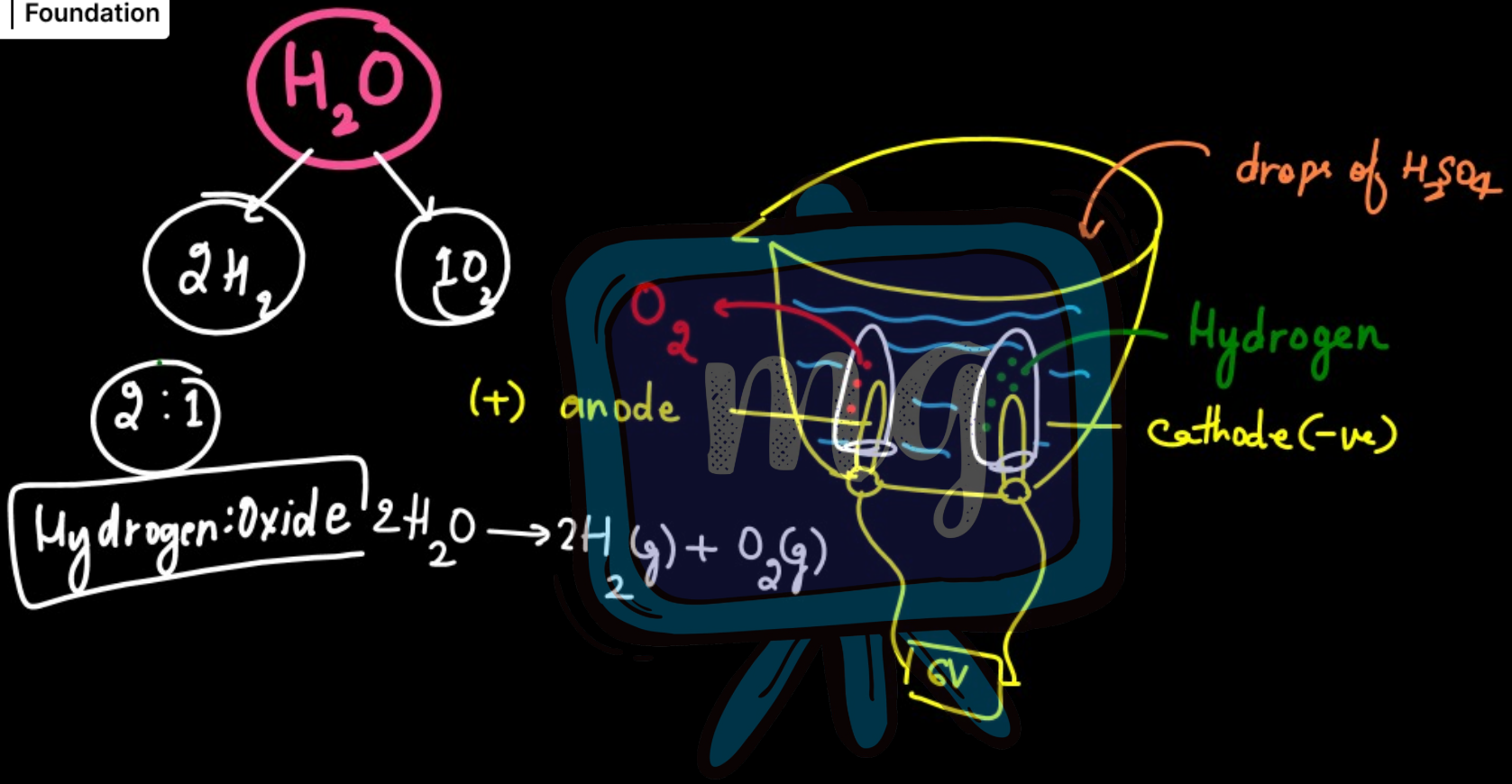
$2H_2O \xrightarrow{\Delta} 2H_2(g) + O_2(g)$

Q4. Why is the amount of gas collected in one of the test tubes in the given figure double of the amount collected in the other? Name this gas.



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Q5. Write the balanced chemical equation for the following and identify the type of reaction in each case.

a. $Potassium\ bromide_{(aq)} + Barium\ iodide_{(aq)} \longrightarrow Potassium\ iodide_{(aq)} + Barium\ bromide_{(s)}$

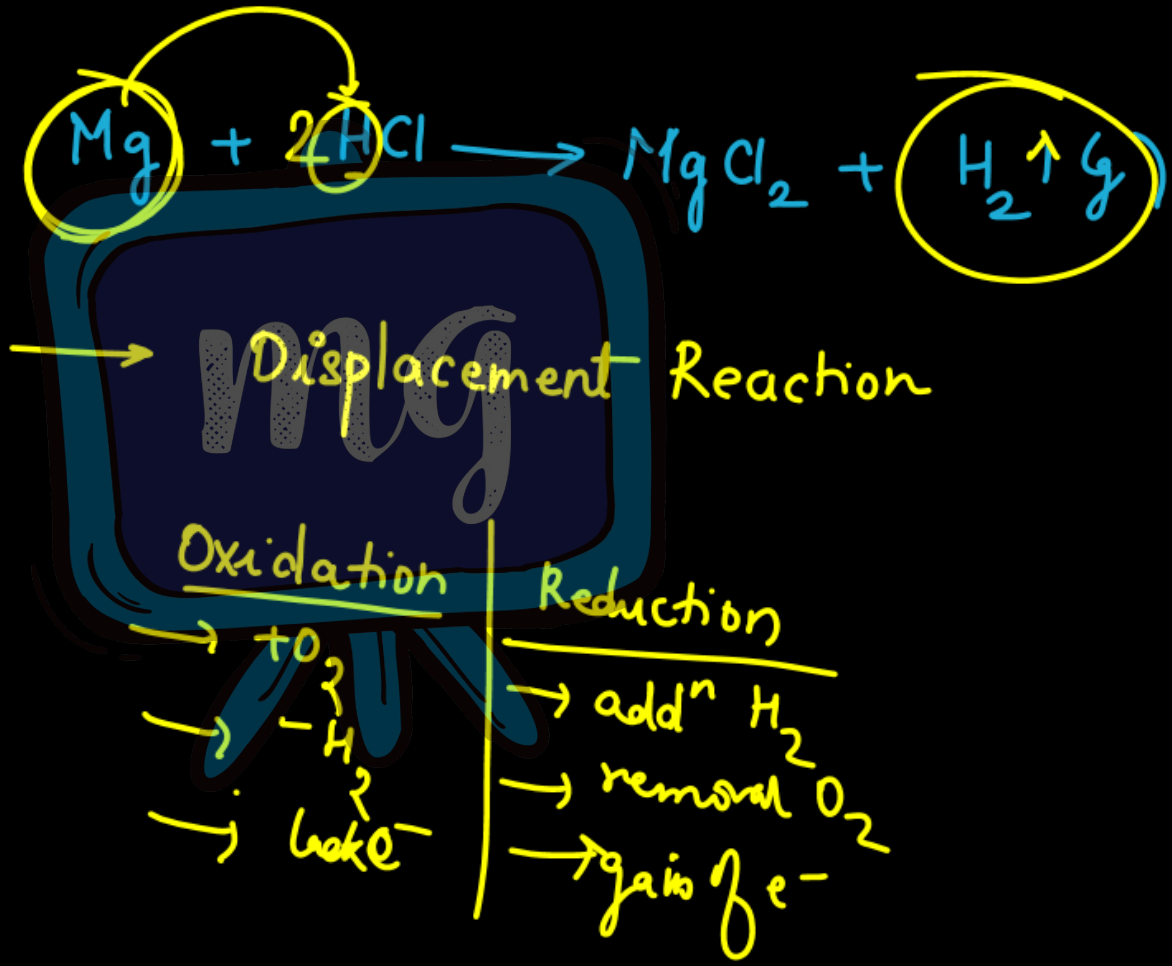
b. $Zinc\ carbonate_{(s)} \longrightarrow Zinc\ oxide_{(s)} + Carbon\ dioxide_{(g)}$

c. $Hydrogen_{(g)} + Chlorine_{(g)} \longrightarrow Hydrogen\ chloride_{(g)}$

d. $Magnesium_{(s)} + Hydrochloric\ acid_{(aq)} \longrightarrow Magnesium\ chloride_{(aq)} + Hydrogen_{(g)}$

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Metal + Acid → Salt + H_2 ↑

$Zn + H_2SO_4 / HCl \rightarrow ZnSO_4 / ZnCl_2$ + H_2 ↑

Displacement Reaction

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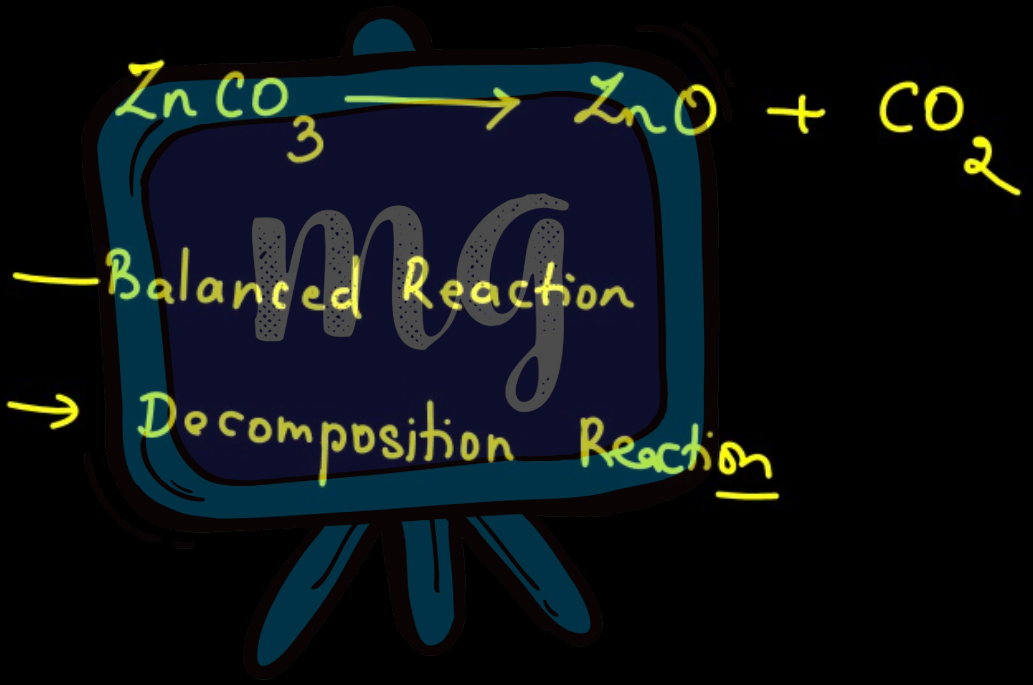
→ Combination Reaction

$H_2 + Cl_2 \rightarrow 2HCl$

	LHS	RHS	
H	2	1 X 2	= 2
Cl	2	1 X 2	= 2

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a) $2KBr + BaI_2 \rightarrow 2KI + BaBr_2$

Type of Reaction

→ Double Displacement

	LHS	RHS
K	1 X 2	1 X 2 = 2
Br	1 X 2 = 2	2
Ba	1	1
I	2	1 X 2 = 2