

01

- (a) (i) Place the following metals in order, with the least reactive first, in the reactivity series.

Mg	Cu	Fe	Ca	Na
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- (ii) How does the effect of heat on their carbonate of a metal change with the position of the metal in the reactivity series ?
- (iii) Which of the given metals has the least tendency to form ions ?
- (b) When metal P is added to a solution of metal Q, no visible reaction is observed in the mixture. However, when metal R is added to the solution of metal Q, a reaction takes place and metal Q is seen to form in the solution. Arrange the metals in the order of decreasing reactivity.

Your solution here:

02 Aluminium and iron can be extracted from their ores for useful applications.

- (a) How are the methods used for their extraction dependent upon their positions in the reactivity series ?
- (b) (i) What is the name of the main iron ore ?
(ii) Write the chemical formula of this main iron ore.
(iii) Explain why limestone is added in the blast furnace during the extraction of iron.

Your solution here:

03 We see several things around us that are made up of metals, e.g. electrical wire (uncoated), fans, utensils, chairs (metallic), ornaments, car engine, scooter parts, etc. Given below is a table showing properties of four metals P, Q, R and S.

Metals	Melting point	Boiling point	Hardness	Malleability	Electrical/ conductivity	Corrosion resistant	Thermal conductivity
P	Low	Low	Soft	High	Conductor	No	Good
Q	Very high	Low	Hard	Low	Conductor	No	Good
R	High	High	Soft	High	Good	Yes	Poor
S	High	Low	Hard	High	Poor	No	Good

1. Which metal is used for making utensils ?
2. Identify a metal that can be used for making ornaments.
3. Heating elements in electrical appliances are made from which metal ?

Your solution here:

04

This section contains 5 questions. The answer to each of the questions is a single digit number, ranging from 0 to 9.

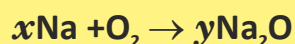
If the correct answers to question numbers X, Y, Z and W (say) are 6, 0, 9 and 2 respectively, then the correct darkening of bubbles will look like as given on the right side.

0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

- Number of metals which lie above hydrogen out of the following is

Sodium, Lead, Copper, Platinum, Zinc, Mercury.

- In the following reaction, x is

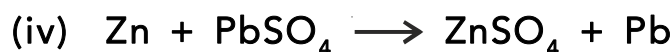
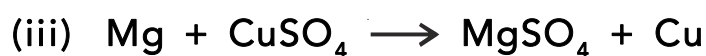
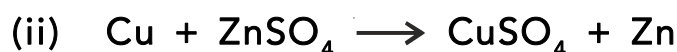


- Number of elements which form basic oxide is
Magnesium, Aluminium, Carbon, Sulphur, Iron, Potassium, Zinc

- Number of elements which will not react even with hot water is

Sodium, Iron, Zinc, Copper, Magnesium, Silver

- Number of possible reactions out of the following is



Your solution here:

05 Metals and non-metals react with oxygen to form oxides at different rates. The oxides formed by metals are basic in nature while oxides formed by non-metals are acidic in nature. The nature of oxides can be determined by testing the aqueous solution of oxide with litmus paper.

1. The oxides of non-metals are acidic oxides because they dissolve in water. What do they form ?
2. Phosphorus is burnt in air to give phosphorus pentoxide. It is dissolved in water and tested with litmus paper. Which colour of litmus paper is used ? Write the change in colour.
3. Magnesium ribbon on burning in air gives a white powder which when dissolved in water turns red litmus blue. What is the nature of oxide formed ?

Your solution here: