

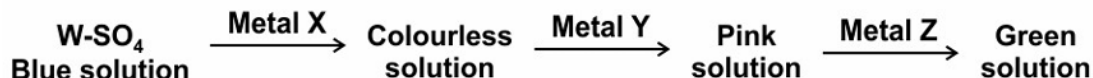
AISSE M&NM REVISION TEST

FM-15

TIME-20MIN

1. Read the following information and answer accordingly

The blue-coloured solution of the sulphate salt of metal W is taken in a beaker. Metal powders X, Y and Z are added one after the other to the beaker. The colour changes occurring in the solution are shown below. [2]



State what colour change, if any, will occur if metal X is again added to the green solution in the beaker. Explain why.

2. Read the following information and answer accordingly

A metallic element, M, has the following properties:

[2]

- floats on water
- can be cut with a knife
- occurs naturally as its chloride, of formula MCl
- its oxide dissolves in water to form the hydroxide

- (a) State the method of manufacture of the metal M.
(b) Name the major byproduct obtained in the process.

3. Read the following information and answer accordingly

Three pieces of a rust free iron rod are completely coated with the following:

[5]

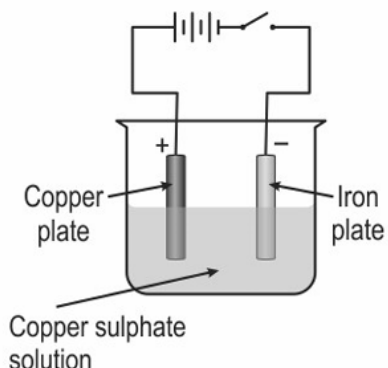
- (i) plastic
- (ii) oil paint
- (iii) zinc

An identical scratch is made on each piece, thus exposing the iron. The pieces of iron are kept exposed to moist air for 10 days and then checked for rust formation.

- (a) State if rusting will be observed at the point of the scratch on the three iron pieces.
(b) Give reasons for your answer in each case.
(c) Name the process of applying a protective zinc coating to steel or iron.

4. Read the information given below

Krunal connected a copper plate and an iron plate to the positive and negative terminals of a battery respectively along with a switch. He immersed the plates into a beaker containing acidified copper sulphate solution.



a. Choose the correct option

After a few minutes, even before he turned the switch on, he noticed that copper was deposited on the iron plate.

This could have been due to _____.

- | | |
|---------------------------------|----------------------------------|
| 1 electrolysis | 2 electroplating |
| 3 a combination reaction | 4 a displacement reaction |

b. Choose the correct option

Which of the following is likely to happen when the current is started?

- 1** Iron will be deposited on the copper plate.
- 2** Copper will continue to be deposited on the iron plate.
- 3** No reaction will occur at the iron plate or at the copper plate.
- 4** The copper already deposited on the iron plate will go back into the solution.

c. Choose the correct option

Krunal now replaces the iron plate with a silver plate. He sees that there is no deposition of copper on the silver plate before starting the current.

Which of the following could be the reason?

- 1** Silver is more reactive than iron.
- 2** Silver is less reactive than copper.
- 3** Silver is a poorer conductor of electricity than iron.
- 4** Silver is a better conductor of electricity than copper.

d. Choose the correct option

What is likely to happen to the concentration of copper sulphate in the solution on passing electric current through the solution in the set-up with the silver plate?

- 1** It will increase.
- 2** It will decrease.
- 3** It will remain the same.
- 4** (Cannot say without knowing the amount of current passed.)

e. Choose the correct option

Which of the following will happen to the weights of the silver and copper plates after passing the current for some time?

- 1** The weight of the silver plate will increase and that of the copper plate will decrease.
- 2** The weight of the copper plate will increase and that of the silver plate will decrease.
- 3** Both the plates will decrease in weight.
- 4** Both the plates will increase in weight.

5.

Listed here is the reactivity of certain metals.

[1]

Metal	Reaction with air	Reaction with water	Reaction with dilute acids
Gold	Does not oxidise or burn	No reaction	No reaction
Sodium	Burns vigorously to form an oxide	Violent reaction	Violent reaction
Zinc	Burns to form an oxide	Reacts on heating	Reacts to produce hydrogen
Platinum	No reaction	Does not dissolve or react	No reaction

From the list above, identify the metal(s) that are likely to be found in a pure state in the Earth's crust.