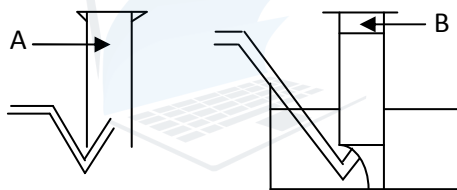




### Changes in matter

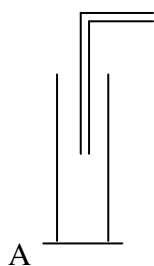
01. Which of the following instance does a chemical reaction
- 1) Dissolving camphor                      2) Dissolving ice cube  
 2) Ripening of fruit                        4) Dissolving wax
02. The following is happened when calcium carbonate is heated. The below reaction is a  
 $\text{CaCO}_3(\text{s}) \longrightarrow \text{CaO}(\text{s}) + \text{CO}_2(\text{g})$
- 1) Chemical decomposition                      2) Chemical combination  
 3) Single displacement reaction                      4) Double displacement reaction
03. Find the answer with metals in the descending order of their reactivity
- 1) Fe, Cu, Pt, Mg                                      2) Fe, Sn, Cu, Ag  
 3) Mg, Cu, Fe, Pt                                      4) Sn, Fe, Cu, Ag

04. Set-ups arranged by a student to collect two gases. Identify A, B gases respectively.
- 1)  $\text{H}_2$  &  $\text{O}_2$   
 2)  $\text{O}_2$  &  $\text{CO}_2$   
 3)  $\text{CO}_2$  &  $\text{O}_2$   
 4)  $\text{O}_2$  &  $\text{H}_2$

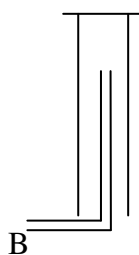


05. The chemical reaction of iron extraction is given below  
 $\text{Fe}_2\text{O}_3(\text{s}) + x\text{CO}(\text{g}) \longrightarrow y\text{Fe}(\text{l}) + z\text{CO}_2(\text{g})$   
 What are the suitable values for X, Y & Z
- 1) 2, 3, 2                                      2) 3, 2, 2                                      3) 3, 2, 3                                      4) 2, 3, 3
06. Consider the reaction given below
- 1)  $\text{CuSO}_4 + \text{Zn} \longrightarrow \text{ZnSO}_4 + \text{Cu}$   
 2)  $\text{CaCO}_3 \longrightarrow \text{CaO} + \text{CO}_2$   
 3)  $\text{C} + \text{O}_2 \longrightarrow \text{CO}_2$
- The above chemical reactions respectively, are example of
- 1) Decomposition, combination, single displacement  
 2) Combination, decomposition, single displacement  
 3) Single displacement, decomposition, combination  
 4) Double displacement, decomposition, combination

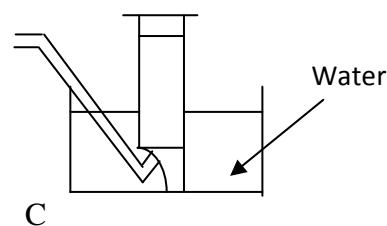
07. Three devices used to preparing & collecting gases are shown below. Which device/device could be used to collect  $\text{CO}_2$  gas?



A



B



C

1) B only

2) C only

3) B &amp; C only

4) A &amp; C only

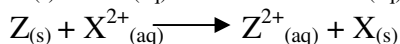
08. In gold extraction, the method used by

- 1) Electrolysis      2) Reduction      3) Oxidation      4) Physical method

09. Double displacement reaction is

- 1)  $ZnSO_4 + Na \longrightarrow NaSO_4 + Zn$   
 2)  $CaCl_2 + Na_2CO_3 \longrightarrow CaCO_3 + 2NaCl$   
 3)  $CaO + H_2O \longrightarrow Ca(OH)_2$   
 4)  $2Mg + O_2 \longrightarrow 2MgO$

10. The metal X, Y & Z displace each other in chemical reactions are shown below.

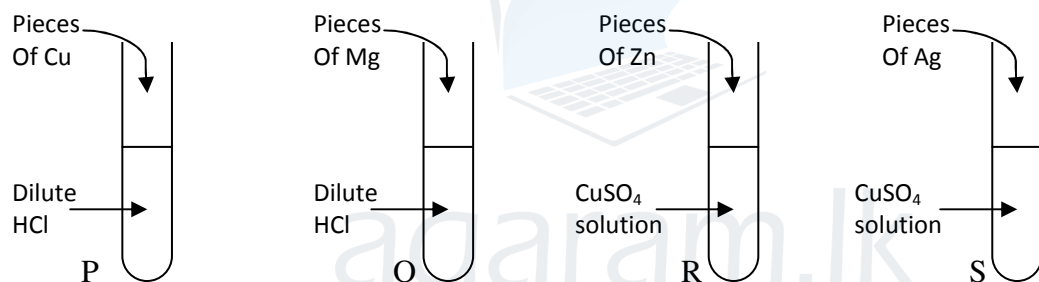


Which answer shows the reactivity of the above metals in descending order.

- 1) X, Y, Z      2) Y, X, Z      3) Z, X, Y      4) Y, Z, X

### Structured essay

01A) Equal volumes of different chemicals are contained in four test tubes. P, Q, R & S as shown in the figure. Equal amount of metal Cu, Mg, Zn and Ag are added to the tubes.



Considering the chemical reactions which may occur in the tubes, answer the following questions.

i) In which test tube metal pieces disappear quickly?

.....

ii) a) In which test tube a colour changes can be observed? .....

b) Write the balanced chemical equation for the reaction that occurs a change

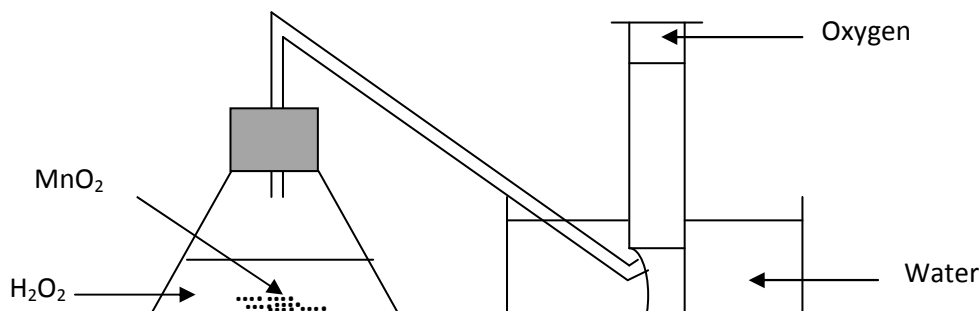
.....

iii) a) In which test tube/s any change cannot be observed? .....

b) What is the reason for your answer?

.....

B.) The method of preparing Oxygen is shown in the diagram



i) Write the balanced chemical equation for the production of Oxygen

.....

ii) What is the type of reaction you written in question (i)

.....

iii) What is the function of Manganese dioxide in the above reaction

.....

iv) What is the method used to collect the Oxygen in the above setup?

.....

v) Write two uses of Oxygen gas

.....

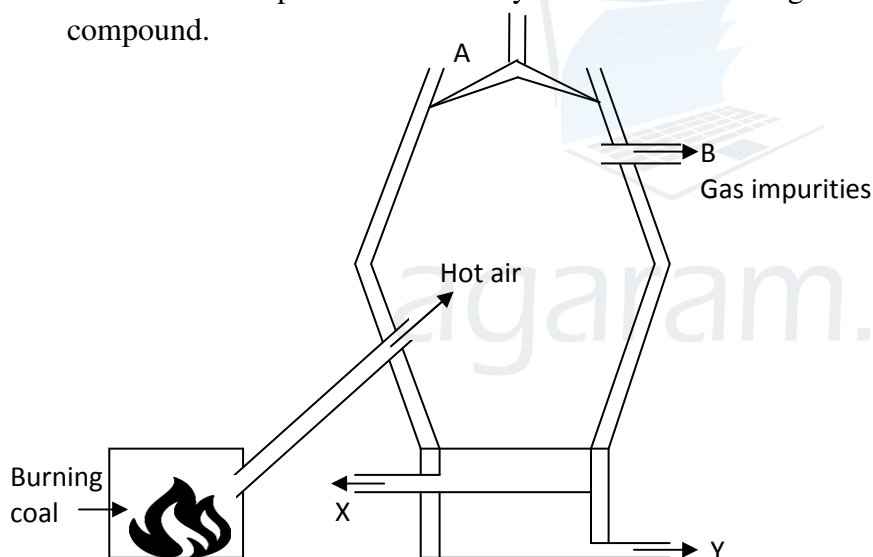
vi) Write two physical properties of Oxygen?

.....

.....

### Essay

01. Most of the compounds obtained by the earth are existing as compounds. Iron is also exist as a compound.



i) Name a form of iron exist in the earth

ii) Given above is a diagram of blast furnace which use to extract iron

a) Write three materials enter through end A

b)  $\text{CO}_2$  gas is removed through B. Write two balance chemical equations for the methods that produce  $\text{CO}_2$  gas inside the furnance.

c) Name X & Y materials, produced in the blast furnace

iii) a) What is the temperature inside the blast furnace ?

b) What are the two methods that produce heat in the furnace?

iii) Write the reduction reaction which is important to extract iron from metal ore

iv) What is the importance of having the slag in the above setup

v) a) If 672kg of Iron needs to be obtained, calculate the amount of hematite that should be taken(Fe = 56, O = 16)

b) What is the mass of  $\text{CO}_2$  production during the above process.