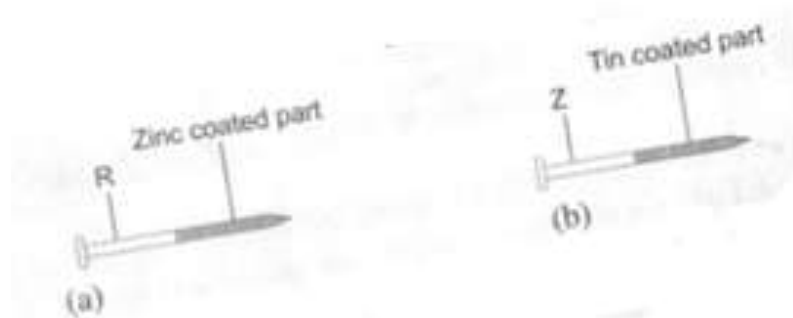


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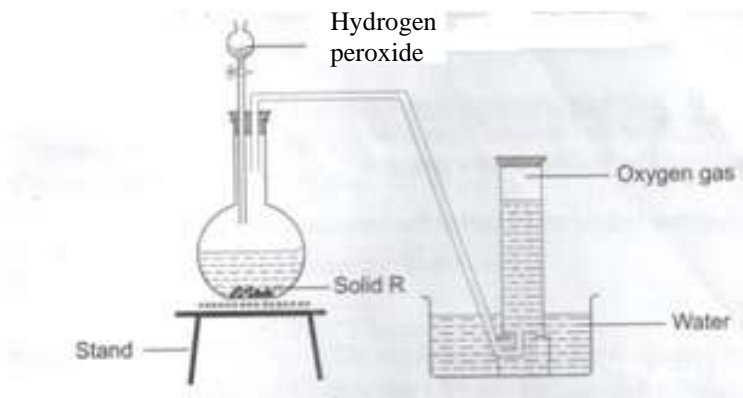
CHEMISTRY FORM TWO

1. Fractional distillation of liquid air is usually used to separate various gaseous mixtures in air. Explain how to;
a) Remove carbon (IV) oxide. (1mk)
b) Remove water. (1mk)
c) Obtain nitrogen. (1mk)

2. The diagrams below represent two iron nails with some parts covered tightly with zinc and tin respectively. What observations would be made at the exposed points R and Z if the wrapped nails are left in the open for several days? Explain.



3. The Diagram below is set-up for the laboratory preparation of oxygen gas.



- a) Name solid R
- b) Write an equation for the reaction that takes place in the flask. (2mks)
- c) Give one commercial use of oxygen. (1mk)
4. An element y has an electron arrangement of 2.8.5
- a) State the period and group which the element belongs. (2mks)
- b) Write the formula of the most stable ion formed when the element Y ionizes (1mk)
- c) Explain the difference between the atomic radius of element Y and its ionic radius (2mks)
5. Lithium has two isotopes with mass numbers 6 and 7. If the R.A.M (relative atomic mass) of Lithium is 6.94, determine the percentage abundance of such isotope.
6. Other than their location in the atom, name two other differences between an electron and a proton.(2mks)
7. Write down the electronic configuration of the atoms with the following atomic numbers(2mks)
- a) 7
- b) 9
- c) 14
- d) 18

8. An atom of an element has the electronic configuration 2.8.2

a) State its atomic numbers

b) To which group of the periodic table does it belong? Explain.

c) Is the element a metal or a non-metal? Explain (1mk)

d) If the atom has 14 neutrons in its nucleus state its mass number. (1mk)

9. Rubidium (Rb) is a member of the alkali metals. Predict how the element reacts with: (3mks)

a) Water

b) Air

c) Chlorine

10. Briefly explain the following observations.

a) Noble gases are generally unreactive. (1mk)

b) Alkaline earth metals are generally less reactive than alkali metals in the same period. (2mks)