Guiding questions for Chemistry facilitation

1. Both copper metal and molten copper (ii) chloride conduct electricity. Name the conducting particles in
   (a) copper metal
   (b) molten copper(ii) chloride
2. Name the reagent used to confirm carbon dioxide in the laboratory
3. Name an ore of iron
4. Name the drying agent for oxygen gas

5. Write the formula of rust
6. Name an iron ore and write its formula
7. Write the formula of the compound formed between M and Y whose atomic numbers are 12 and 8 respectively

8. When metal X is heated in plenty of oxygen, a black solid is formed. Identify metal X and the black solid

9. Write equation of the reaction that would take place if dilute hydrochloric acid is added to copper(II) carbonate

10. State what is observed when:
    (a) copper(II) carbonate is heated strongly
    (b) water is added to solid sodium peroxide
    (c) chlorine is bubbled through potassium bromide
    (d) ethanol is added to a larger amount of water

11. Define the following terms
    (a) Electrolyte
    (b) rate of chemical reaction
    (c) heat of neutralization
    (d) oxide

12. Draw a well labelled diagram for the preparation of a sample of dry carbon dioxide gas in the laboratory

13. Describe the preparation of carbon dioxide in the laboratory. Diagram not required

14. Explain the following:

    a) aqueous solution of sodium chloride conducts electricity whereas solid sodium chloride does not

    b) extensive use of ammonium nitrate fertilizers can make the soil acidic

    c) when burning magnesium is lowered in a jar of carbon dioxide, white ash and a black solid are formed

    d) iron nails left outside for long develop a brown coating

15. Excess silver nitrate solution was added to a solution containing 2.72g of zinc chloride. Calculate the mass of the precipitate formed (Zn=65.5, Cl=35.5, Ag=108)

16. Give two uses of oxygen