S.I

ITEM ONE

The equipment used to carryout experiments in the laboratory are called apparatus. There are a number of apparatus in Chemistry laboratory which can be used to conduct experiments. The pieces of apparatus are used for different purposes such as measuring volumes accurately or roughly, mass, temperature. Others are used for heating, keeping solutions, mixing reagents, and many other uses.

(a) Tasks

(a) Name the heating apparatus normally used for heating in the laboratory

(b) (i) What are the two flames produced by the apparatus in (a)

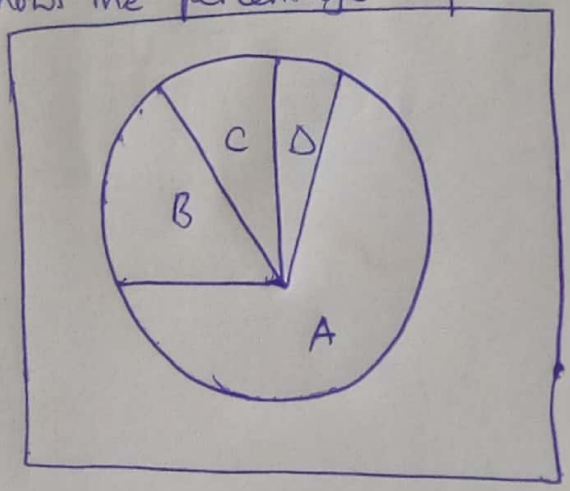
(ii) Which is the best flame produced for heating? Give a reason for your answer.

(c) Compare the flames produced by the apparatus in (a)

(d) Write down the steps on how to use or light the apparatus in (a) above.

ITEM TWO

The pie chart shows the percentage composition of main gases in dry air



(a) State which gases are represented by segments A, B, C and D.

(b) What are the approximated percentage compositions for the above gases.

(c) Name the method used in the separation of the different gases, giving its principle.

(d) State the uses of the gases A, B, C and D.

(e) Give some of the processes that increase and decrease the concentration of the gas B.

****** END *****

S.2

ITEM ONE

Moses is a builder and he is in the process of constructing his house without affecting the environment. He wants to build a good strong house. There are various building materials of different quality and properties on the market. However, he does not know the quality of materials to use.

Moses knows that choosing quality materials depends on the nature of the material and has come to you for advise.

Task

Use your chemistry knowledge to;

(a) Explain
   (i) Categories of materials
   (ii) The suitability of the materials

(b) Advise Moses on the choice of materials

ITEM TWO

There are different classes of elements in your community that is to say metallic elements, non metallic, metalloids and noble gases.

Task

As a student who understands the chemistry of elements.

(a) State two examples of elements in each class.

(b) Elements ~~Na~~ with atomic numbers 11 and 17 are also part of the elements in your community
   (i) Write the electronic configurations of the elements
   (ii) Draw the electronic structures of the elements.
   (iii) State the group and period to which they belong.

(c) With the aid of a diagram, describe the structure of an atom.

**** END ****