RESPIRATION
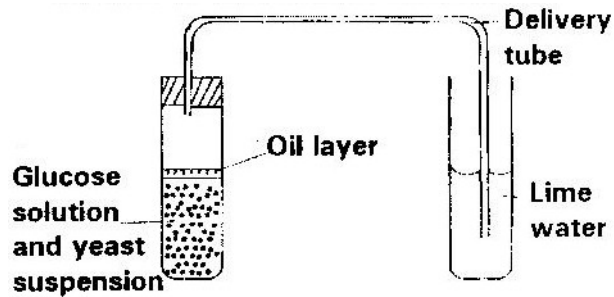
**PAST KCSE QUESTIONS ON THE TOPIC**

1.   The diagram below shows a set up that was used to demonstrate fermentation.

Glucose solution was boiled and oil added on top of it. The glucose solution was then allowed to

cool before adding the yeast suspension.

a)   Why was the glucose solution boiled before adding the yeast

suspension?   (1mk)

b)   What was the importance of cooling the glucose solution before

adding the yeast suspension?   (1mk)

c)   What was the use of the oil in the experiment?   (1mk)

d)   What observation would be made in test tube B at the end of the

experiment   (1mk)

e)   Suggest a control for this experiment   (1mk)

2.   Give two reasons why accumulation of lactic acid during vigorous exercise lead

to an increase in heart beat.   (2mks)

3.   A process that occurs in plants is represented by the equation below.

$C_6H_{12}O_6$ $2C_2 H_5OH) + (2CO_2) + Energy$
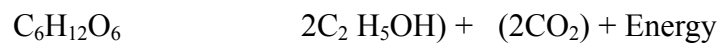
Glucose   Ethanol   Carbon Dioxide

a)   Name the process   (1mk)

b)   State the economic importance of process name in (a) above.

                                                                        (1mk)

4.   Other than carbon dioxide, name the other products of anaerobic respiration in

        plants.   (2mks)

5.   Name the substance which accumulates in muscles when respiration occurs with

        insufficient oxygen.   (1mk)

6.   a)   In what form is energy stored in muscles?   (1mk)

        b)   State the economic importance of anaerobic respiration in plants.

                                                                        (2mks)

7.   State four ways in which respiratory surfaces are suited to their function.

                                                                        (4mks)

8.   a)   A dog weighing 15.2kg requires 216kJ while a mouse weighing

                50g requires 2736KJ per day. Explain.   (2mks)

        b)   What is the end product of respiration in animals when there is

                insufficient oxygen supply?   (1mk)

9   a)   Name the products of anaerobic respiration in:

                i)   Plants   (1mk)

                ii)   Animals   (1mk)

        b)   What is oxygen debt?   (1mk)

10. $5C_{51}H_{98}O_6 + 145O_2$ $1 O_2CO_2 + 98 H_2O + energy$

        The above equation shows an oxidation reaction of food substances.

a)   What do you understand by the term respiratory quotient?   (1mk)

b)   Determine respiratory quotient of the oxidation of food substance.

(2mks)

c)   Identify the food substances.   (1mk)

11   Write differences between aerobic respiration and photosynthesis.   (4mks)

12.   Below is a diagram of an organelle that is involved in aerobic respiration.
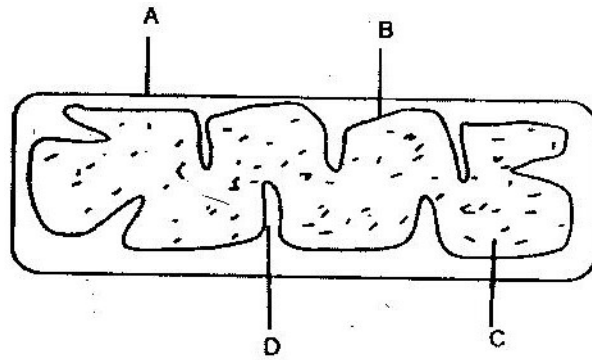
a)   Name the organelle   (1mk)

b)   Name the parts labeled A, B, and C.   (3mks)

c)   What is the purpose of the folding labeled D?   (1mk)

d)   Give the chemical compound which is formed in the organelle and

        forms the immediate source of energy.