EXAMINATIONS COUNCIL OF ZAMBIA

Examination for General Certificate of Education Ordinary Level

Biology 5090/6

Paper 6 **Alternative to Practical**

Friday **29 JULY 2016**

Additional materials:
Answer paper
Diagram Booklet

PRINT VERSION OF BRAILLE PAPER

Time 1 hour

Instructions to Candidates

Write your name, centre number and candidate number on the answer paper.

There are **three (3)** questions in this paper.

Answer **all** questions.

Write your answers on the answer paper.

Information for Candidates

The number of marks is given in brackets [ ] at the end of each question or part question.

Cell phones are not allowed in the examination room.

This question paper consists of 4 printed pages.

Answer all questions

1 Three test tubes were labelled **A, B** and **C**. In each test tube $10cm^3$ of gelatine solution was added. The test tubes were then treated as follows:

Test tube **A**: $5cm^3$ of distilled water was added.

Test tube **B**: $5cm^3$ of fresh pineapple juice was added

Test tube **C**: $5cm^3$ of pineapple juice that had been boiled and cooled was added.

The test tubes were allowed to stand for 25 minutes. Then the content in the test tubes were examined.

(a) What is the purpose of test tube **A**?

..... [1]

(b) State **two** conditions that were kept constant during the experiment.

..... [2]

(c) In which of the **three** test tubes was there no reaction taking place?

(i) Test tube: .....

Reason: ..... [2]

(ii) Test tube: .....

Reason: ..... [2]

(d) What is the effect of the following on an enzyme?

(i) High temperature..... [1]

(ii) Low temperature ..... [1]

(e) State any other **two** properties of enzymes.

.....

..... [2]

[Total: 11]

2 A potted plant was placed inside a cupboard for 48 hours. When a leaf was tested for starch using iodine solution, a brown colour was observed.

(a) Why was the plant left in the cupboard for 48 hours?

..... [1]

(b) Briefly outline the **four** steps you would follow in testing a leaf for starch, giving a reason for each step taken.

(i) .....

Reason .....

..... [2]

(ii) .....

Reason .....

..... [3]

(iii) .....

Reason .....

..... [2]

(iv) .....

Reason .....

..... [3]

(c) What conclusion could be drawn from the results observed on the leaf?

.....

..... [1]

(d) Write **three** differences between photosynthesis and respiration.

(i) .....

.....

(ii) .....

.....

(iii) .....

..... [3]

(e) Write the word equation for photosynthesis.

..... [2]

[Total: 17]

3 A learner carried out an experiment on two bean seeds **A** and **B**. Seed **A** was soaked in water for 72 hours while seed **B** was not socked. At the end, seed **A** was taken out of water. The seeds were examined using a hand lens.

(a) Which visible differences were seen on both seeds?

.....

..... [2]

(b) What happened to the seed that was soaked?

.....

.....

..... [3]

(c) **(i)** Explain why it is easier to crack open the soaked seed.

..... [1]

(ii) What is the importance of the explanation in **(c) (i)** in the germination of seeds?

..... [1]

(d) **(i)** What is the name of the outer coat of the seed?

..... [1]

(ii) Name the **two** halves of the seed.

..... [1]

(iii) Explain the role of the structures named in **(d) (i).**

..... [1]

(e) Distinguish between the germination of the bean seed and maize seed

.....

..... [2]

[Total: 12]