EXAMINATIONS COUNCIL OF ZAMBIA

Examination for School Certificate Ordinary Level

Biology   **5090/3**

PAPER 3 Practical Test

Tuesday   27 OCTOBER 2015

Additional materials:
As listed in Instructions to Supervisors.

Time: 1 hour 15 minutes

Instructions to candidates

Write your name, centre number and candidate number in the spaces provided at the top of this page.

There are **two** questions in this paper.

Answer **both** questions.

Write your answers in the spaces provided on the question paper.

Use sharp **HB** pencils for your drawings. Coloured pencils and crayons should **not** be used.

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.

FOR EXAMINER'S USE	
1	
2	
Total	

1 **(a)** You are provided with specimen **W1**. Crush it in a mortar and prepare a $5cm^3$ filtered liquid extract. Put the extract in the test tube labelled **Filtrate**.

Pour $2cm^3$ of the filtered solution in each of two test tubes *labelled* **A** and **B**. Carry out the test for proteins and reducing sugars using the solutions in the test-tubes.

Nutrient for testing	Test method	Observation(s)	Conclusion
Reducing sugar			[5]
Proteins			[5]

(b) A human eye has a standard length of 3.5 cm.

(i) Make a labelled drawing of the eye with the aid of a mirror. Show clearly as many visible structures as possible.

[6]

(ii) Measure and record the length of the drawing. (Draw a line on the diagram to show the measured length of the drawing.)

.... [1]

(iii) Calculate the magnification of the drawing.

[2]

Magnification .... [1]

[Total: 20]

[Turn over

2   You are provided with three Irish potato cubes placed in three different 250 cm³ beakers labelled **A, B** and **C**. The potato cubes in **B** and **C** have been in the solutions for 12 hours while cube **A** has not been in any solution.

(a)   Measure the length of each cube (dry each cube before weighing). Complete the table below using the lengths obtained.
(Use the length of cube **A** as the initial length).

Cubes	A	B	C
Initial Length			
Length after 12 hours			

[3]

Given the graph below, plot the results of the table above.

Length (mm)
after 12 hours
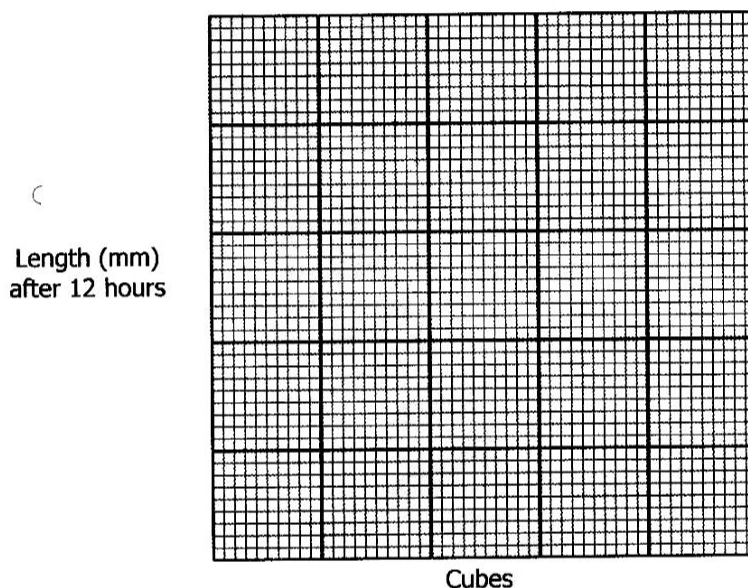
Cubes   [5]

(b)   Provide an explanation for the observation made in each case.

A: Observation ....

Explanation .... [2]

B: Observation ....

Explanation .... [2]

C: Observation ....

Explanation .... [2]

(c)   Describe the texture of each cube by feeling it with your fingers.

A   ....

B   ....

C   .... [3]

(d) State a reason for the texture in each of the three cubes in **(c)** above.

A ....

B ....

C .... [3]

(e) Name the processes responsible for the texture felt in cube **B** and **C**.

B ....

C .... [2]

[Total: 20]