Candidate's Name: .....

Index Number: ..... Signature: .....

553/2

BIOLOGY PRACTICAL

Paper 2

JULY/AUGUST 2023

UGANDA PRIVATE AND INTEGRATED SCHOOLS ASSOCIATION

Uganda Certificate of Education

FINAL ASSESSMENT EXAMINATIONS YEAR 2023

BIOLOGY PRACTICAL

Paper 2

TIME: 2 hours

INSTRUCTIONS TO CANDIDATES:

- *This Paper consists of **three** questions.*
- *Answer **all** questions.*
- *Drawings should be made in the spaces provided.*
- *Use sharp pencils for your drawings.*
- *Coloured pencils or crayons should **not** be used.*
- *No additional sheets of writing paper are to be inserted in this booklet.*
- *Work on additional sheets will **not** be marked.*

For Examiners' Use Only		
Question	**Marks**	**Examiner's Initial**
1		
2		
3		
Total		

Answer all questions

Answers must be written in the spaces provided

Use sharp pencils for your drawings.

1. a) You are provided with food solution T. carry out tests for Starch, reducing sugars and proteins on solution T, record your tests, observations and conclusions in the table below. (8marks).

TABLE 1.

FOOD SUBSTANCE	TEST	OBSERVATION	DEDUCTION
STARCH			
REDUCING SUGARS			
PROTEINS			

b) Cleanse your mouth, collect 3cm of saliva into a test tube, add 2cm of distilled water onto the saliva to make it 5cm of solution. Name it solution R.

Label any 4 test tubes 1-4. Add $1cm^3$ of solution R into each of the 4 test tubes.

Add 1cm of hydrochloric acid into test tube 2 and 1cm of sodium hydroxide solution into test tube 3.

Boil the contents of test tube 4 for 3 minutes and cool the test tube using a water bath.

Add 1cm of solution T into each of the test tubes 1,2,3 and 4.

Incubate the 4 test tubes in a water bath maintained at 35-39 degrees Celsius for 20 minutes (mean while you may continue with other work).

After the 20 minutes, carry out a test for reducing sugars on each of the 4 test tubes and record your observations and deductions in table 2 below (6 marks).

TABLE 2.

TEST TUBE	OBSERVATION	DEDUCTION
TEST TUBE 1		
TEST TUBE 2		
TEST TUBE 3		
TEST TUBE 4		

c) Name the active substance in solution R (1mark)

.....

d) Which properties of the active substance in Rare being investigated in the experiment above? (2marks).

.....

e) Explain your observations in the following test tubes (4 marks)

i) Test tube 2

.....

.....

.....

ii) Test tube 4.

.....

.....

.....

2. You are provided with specimens A, B, C and D.

i) Which part of the plant are they? (1mark)

.....

ii) Give two reasons to support your answer in a) i) above (2marks)

.....

.....

b) Using observable features state the functions of the following specimens to the organism from where they were collected. (4 marks)

i) Specimen A

ii) Specimen C

c) Describe each of the parts indicated in the table for each specimen.

TABLE 1 (4marks)

FEATURE	SPECIMEN A	SPECIMEN B	SPECIMEN C	SPECIMEN D
STALK				
VENATION				

d) Using features on the Stalk only, construct a biological key to differentiate between the specimens. (3marks)

e) Draw a well labelled drawing of specimen C. (5 marks)

3. You are provided with specimens X, Y and Z.

a) i) Identify the specimens (3 marks)

X.....

Y.....

Z.....

b) From which part of the skeleton are they found? (3 marks)

X.....

Y.....

Z.....

c) Giving a reason in each case, state the type of joint at both end of specimen X and Z.

i) Type of joints at the upper ends of specimen X. (2marks)

.....

Reason

.....

.....

.....

ii) Type of joint at the lower end of specimen X (2 marks)

.....

Reason.

.....

.....

iii) Type of joint at the upper end of specimen Z. (2 marks)

.....

Reason

.....

.....

iv)Type of joint at the lower end of specimen Z (2marks)

.....

Reason.

.....

.....

d) State the general function of the specimens to the animal from which they were collected. (1 mark)

.....

.....

.....

.....

.....

.....

.....

e) Make a well labelled drawing of specimen X. Do not label, state your magnification. (4 marks)

END