Name:……Centre/Index number……/……

Signature:……

UCE 553/2

BIOLOGY PRACTICAL

JULY, 2019

2 Hours

Uganda Certificate of Education

RESOURCEFUL MOCK EXAMINATIONS

BIOLOGY PRACTICAL

Paper 2

Time allowed: 2Hours

INSTRUCTION TO CANDIDATES

- *Answer all questions.*
- *Answers should be written in the spaces provided.*
- *Use a sharp pencil for any drawing.*
- *Additional answer sheets should not be inserted. Answers written in additional sheet of paper will not be marked.*

For Examiner's use ONLY

Question	**Mark**	**Examiner's initial**
1		
2		
3		
TOTAL		

1. You are provided with specimens **P** and **Q** which are plant parts.

   a. (i) Identify the specimens. *(1 mark)*

   ……

   ……

   (ii) Give a reason which is common to both for your answer in (a) (i) above. *(1 mark)*

   ……

   ……

   ……

   ……

   b. Cut off a piece measuring 2cm x 2cm x 2cm from in specimen **Q**. Crush it in a mortar using a pestle to make a paste. Add 12 cm^3 of water and mix thoroughly, then decant the extract into a test tube. Carry out tests that follow.

   Record your tests, observations and deductions where ever necessary in the table provided below. *(11 marks)*

Tests	**Observations**	**Deductions**
i. To 1cm^3 of the extract add 3 drops of iodine solution		
ii. To 1cm^3 of the extract add 1 cm^3 of Benedict's solution and boil.		
iii. To 1 cm^3 of the extract add 1cm^3 of dilute sodium hydroxide solution followed by 4 drops of copper(ii) sulphate solution.		

c. (i) Using observations in (a) and (b), how is specimen **Q** adapted to its functions?

(2 marks)

……

……

……

……

(ii) Observe specimen **P** carefully. Draw but don't label. *(5 marks)*

2. You are provided with specimens **R**, **S** and **T**, which are plant parts. Cut transverse sections of specimens **R** and **S**.

a. (i) Identify the plant part of which specimens **R**, **S** and **T** are. Give two reasons for your answer. *(3 marks)*

Identify

……

……

Reasons

……

……

……

……

(ii) State four structural differences between specimens **R** and **S**. *(4 marks)*

Specimen **R**	Specimen **S**

b. Using observable features, describe how each specimen is dispersed. *(6 marks)*

i. Specimen **R**

……

……

……

……

ii. Specimen **S**

……

……

……

……...

iii. Specimen **T**

……

……

……

……

c. Draw and label the mesocarp of specimen **S** and structures inside it. *(7 marks)*

3. You are provided with specimens **W** and **X** which are animals.

   a. Observe the two specimens carefully and give reasons for the phylum they belong to *(3 marks)*

   ……
   ……
   ……
   ……
   ……
   ……

   b. Describe the structural features on the thorax of specimen **W**. *(3 marks)*

   ……
   ……
   ……
   ……

   c. How are the following features adapted to their functions? *(6 marks)*

      i. Head of specimen **W**

      ……
      ……
      ……

……

……

ii. Legs of specimen **X**

……

……

……

……

……

d. Draw and label the first four segments of the fore limb of specimen **X** from the point of attachment to the main body. Use a hand lens where necessary. *(7 marks)*

S.4 RESOURCE BIOLOGY P2, 2019

INSTRUCTION/CONFIDENTIAL

Each candidate should be provided with

P- Couch grass rhizome (with at least 3 nodes and roots and scale leaf)

Q-Irish potato tuber

R- Mango fruit

S-Orange fruit

T- Castor oil fruit

W- Bee

X- Cockroach

Knife

Mortar and pestle

Iodine solution

Benedict's solution

Copper(ii) sulphate solution

Sodium hydroxide solution

Heat source

4 test tubes