

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***

<b>Question</b>	<b>Mark</b>	<b>Examiner's initial</b>
1		
2		
3		
<b>TOTAL</b>		

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

a. (i) Identify the specimens.

(1 mark)

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

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.....

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<sup>3</sup> 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 <sup>3</sup> of the extract add 3 drops of iodine solution		
ii. To 1cm <sup>3</sup> of the extract add 1 cm <sup>3</sup> of Benedict's solution and boil.		

iii. To 1 cm <sup>3</sup> of the extract add 1cm <sup>3</sup> of dilute sodium hydroxide solution followed by 4 drops of copper(ii) sulphate solution.		
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c. (i) Using observations in (a) and (b), how is specimen **Q** adapted to its functions?

*(2 marks)*

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(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

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Reasons

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

Specimen <b>R</b>	Specimen <b>S</b>

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

i. Specimen **R**

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ii. Specimen **S**

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iii. Specimen **T**

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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)

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

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

i. Head of specimen **W**

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ii. Legs of specimen **X**

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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**