

NAME:..... INDEX NO:.....

SIGNATURE:.....

P530/3  
BIOLOGY  
PRACTICAL  
PAPER 3  
Nov 2020  
3 ¼ HOURS

**ST. MARYS' KITENDE**  
***Uganda Advanced Certificate of Education***  
**RESOURCEFUL MOCK EXAMINATION 2020**  
**BIOLOGY PRACTICAL**  
**PAPER 3**  
**3 HOUR 15 MINUTES**

***Instructions to candidates;***

- *This paper consists of three questions.*
- *Answer all questions.*
- *Write the answers in the spaces provided. Additional sheets of paper must not be inserted in the booklet.*
- *You are not allowed to start working within the first 15 minutes. You are advised to use this time to read through the paper and ensure that you have all the apparatus, chemicals and specimens you may require.*

FOR EXAMINERS' USE ONLY		
QUESTION	MARKS	EXAMINER'S SIGNATURE AND NO.
1		
2		
3		
<b>Total</b>		

1. You are provided with specimen **T** which is freshly killed.

a) Explain how specimen T is adapted to surviving in aquatic environment. (4marks)

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b) i) Measure and record the length of fore and hind feet in mm. (2marks)  
length of fore foot

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Length of hind foot

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Express the length of the fore and hind feet as a ratio of fore foot to that of hind foot. (2marks)

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Explain the significance of the ratio above. (2marks)

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ii) Explain the differences between the fore and hind feet. (4marks)

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iii) Draw and label the hind foot from its dorsal view.

(4marks)

c) Open specimen T to display the vessels that drain blood from the left portal systems and the left of the thoracic region. With exclusion of the heart, draw and label your dissection.

(23marks)

2. You are provided with two sets of bean seedlings labeled A and B of different period of germination and solution H which of a common lab reagent.

Obtain three test tubes, label them **TA** (Testa of A), **CA** (Cotyledon of A) and **GA** (Grown parts of A). Select five large seedlings of groups A. Peel and separate the seedlings parts into tests, cotyledon and grown parts. Crush each apart into a paste. add 10cm<sup>3</sup> of water. Decant clear extract into corresponding test tubes. Repeat the procedure for group B.

- a) Write and carry out iodine and Benedict's test on extracts. Record your observation in the tables below. (8marks)

**Table 1**

<b>Iodine Test</b>	<b>Extract of;</b>	<b>Observation</b>
	Testa of A	
	Testa of B	
	Cotyledon of A	
	Cotyledon of B	
	Grown parts of A	
	Grown parts of B	

**Table II**

<b>Benedict's Test</b>	<b>Extract of;</b>	<b>Observation</b>
	Testa of A	
	Testa of B	
	Cotyledon of A	
	Cotyledon of B	
	Grown parts of A	
	Grown parts of B	

(8marks)

**Table III**

<b>Test</b>	<b>Observation</b>	<b>Deduction</b>
To 2cm <sup>3</sup> of grown parts extract of seedling A add 2cm <sup>3</sup> of solution H		
To 2cm <sup>3</sup> of grown parts extract of seedling B add 2cm <sup>3</sup> of solution H.		

(4marks)

b) i) Explain your observation in table I, II and III in (a) above.

Explanation for table 1

(6marks)

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Explanation for Table II

(6marks)

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Explanation of Table III

(6marks)

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ii) With a reason, suggest the part of the bean seedling which is suitable for the baby. (3marks)

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3. You are provided with specimen O, T, G, C, P and D. Cut O, T, G, C and P transversally and specimen D longitudinally.

a) Examine the specimens and describe the nature of Locullus and seed attachment of each specimen in the table below.

<b>Specimen</b>	<b>Nature of locullus</b>	<b>Seed attachment</b>
<b>O</b>		
<b>T</b>		
<b>G</b>		
<b>C</b>		

<b>P</b>		
<b>D</b>		

b) i) Construct a dichotomous key to identify the specimens in the order P,D,G,C,O and T basing on the nature of the Locullus. (6marks)

ii) Basing on features in the Loculli, explain how specimen O is adapted to its mode of dispersal. (2marks)

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**END**