Name: …….index……..

Signature……School……

P530/3
Biology Practical
Paper 3
July/August 2019
3 hours 15 minutes

BUGANDA EXAMINATION COUNCIL MOCKS

Uganda Advanced Certificate of Education

BIOLOGY (Practical)

PAPER 3

3HOURS 15 MINUTES

INSTRUCTIONS

- Answer all questions in the spaces provided.
- Answers must be written in spaces provided. Any extra sheet of paper inserted will not be marked.
- Candidates may be penalized for poor drawings, incorrect spelling.
- Candidates are not allowed to start working with the apparatus for the first 15 minutes. This time is to enable candidates to read the question paper and make sure they have all the apparatus and chemicals they need.

For Examiner's use only		
Question	Marks	Examiner's number and signature
1		
2		
3		
Total		

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

(a) Describe how specimen **T** is adopted to surviving in water. (4marks)

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

Length of left forefoot

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Length of left hind food

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Work out the ratio of the forefoot to hind foot. (2marks)

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What is the significance of the ratio above to the specimen? (2marks)

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

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(iii) Draw and label the left hind foot from its dorsal view. (4marks)

(b) Dissect specimen **T** to display the vessels that drain blood from left portal systems and the left of the thoracic region. With exclusion of the heart draw and label your dissection.
(18marks)

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

Obtain three test tubes. Label them **TA** (Testa of **A**), **CA** (Cotyledon of **A**) and **TG** (Grown parts of **A)**.

Select five large seedlings of group **A**. Peel and separate the seedlings parts into **testa**, **cotyledon** and **grown parts.**
Crush each part into a paste. Add $10cm^3$ of water. Decant clear extract into corresponding test tube.

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

Iodine test	**Extract of;**	**Observation**
	Testa of A	
	Testa of B	
	Cotyledon of A	
	Cotyledon of B	
	Grown parts of A	
	Grown parts of B	

Table II

Benedict's test	Extract of;	Observation
	Testa of A	
	Testa of B	
	Cotyledon of A	
	Cotyledon of B	
	Grown parts of A	
	Grown parts of B	

Table III (4marks)

Test	Observation	Deduction
To $2cm^3$ of grown parts extract of seedling **A** add $2cm^3$ of solution **H**.		
To $2cm^3$ of grown parts of seedling **B** add $2cm^3$ of solution **H**.		

(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** (5marks)

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Explanation for **table III** (6marks)

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

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3. You are provided with specimens labeled **O, T, G, C, P** and **B**. Cut specimens **O, T, G, C** and **P** transversely and specimen **B** longitudinally.

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

Specimen	**Nature of Locule**	**Seed attachment**
O		
T		
G		
C		
P		
B		

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

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

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END