Name ..... Centre /Index No .....

School ..... Signature .....

P530/3
BIOLOGY
(Practical)
PAPER 3
July/August 2017
$3\frac{1}{4}$ hours

WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Advanced Certificate of Education

BIOLOGY PRACTICAL

Paper 3

3 hours 15 minutes

INSTRUCTIONS TO CANDIDATES:

- *This paper consists of* **three** *questions.*
- *Answer* **all** *questions.*
- *Answers must be written in the spaces provided.*
- *Additional sheets of paper must* **not** *be inserted in this booklet.*

FOR EXAMINER'S USE ONLY		
Question	Marks	Examiner's signature
1		
2		
3		
Total		

Turn Over

Question 1:78 minutes (40 marks)

You are provided with specimen A which is freshly killed.

a) (i) Pin the specimen with ventral side uppermost.
Draw and label the body parts observed in the posterior end of the trunk region, including the left thigh. **(06 marks)**

(ii) Measure 2.0cm length of the tail from its attachment to the body and observe it in detail using a hand lens.
Draw this part of the tail and its unique features twice the size observed.
Do not label. **(04 marks)**

(iii) Give the adaptive role of any **three** features in the part of tail drawn above. **(03 marks)**

1. .....

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2. .....

.....

3. .....

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b) Dissect the specimen to display:-

(i) contents of abdominal cavity in viscera.

(ii) thoracic blood circulation and structures used for ventilation.
Draw and label parts displayed in (i) and (ii) above with the heart deflected to your left. **(27 marks)**

***Question 2:59 minutes* (30 marks)**

You are provided with five pellets of food material W. Transfer all the pellets into a mortar and add 3cm^3 of water, then grind the material into fine paste. Add 20cm^3 of water, stir and leave to stand for 3 minutes before decanting the liquid part into a test tube to constitute extract W.

a) Determine the nutrient composition of extract W using the reagents provided. Record your tests and observations in Table 1 below;-

TABLE 1 **(09½ marks)**

TEST FOR	OBSERVATIONS
1. Starch	
2. Reducing sugar	
3. Proteins	

b) From the dissected specimen in Question 1, cut and remove: X, posterior half of stomach, Y, duodenal loop + 5cm length of proximal end of ileum and Z- 15cm length from distal end of ileum.

Prepare extracts X, Y and Z by squeezing out equal amounts of contents of each part into test tubes labeled X, Y and Z. Add 4cm^3 of water to contents of each test tube and shake to mix thoroughly.

(i) Repeat the tests in Table1 on extracts X, Y and Z. Record name of the tests and your observations in Table 2 below:-

TABLE 2 **(11½ marks)**

NAME OF TEST	OBSERVATIONS
1.	X;
	Y;
	Z;

2.	X;	
	Y;	
	Z;	
3.	X;	
	Y;	
	Z;	

(ii) Explain your results for extract Z. (03 marks)

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(iii) From your observations in Tables 1 and 2, compare the quantity of nutrients in extract W with that in Y and Z. (03 marks)

TABLE 3

Extracts	Starch	Reducing Sugar	Proteins
W			
Y			
Z			

(iv). Giving evidence from Table 3 above, prove that pellets W formed an essential part in the diet of specimen A, before it was killed. (03 marks)

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Question 3 58 minutes (30 marks)

Using a hand lens whenever necessary, examine specimens B, C and D provided. Then answer the following questions:-

a) Describe the following parts in specimens B and C:-

(i) Bract: (05 marks)

B; .....

.....

.....

C; .....

.....

.....

(ii) Perianth; (05 marks)

B; .....

.....

.....

C; .....

.....

.....

(iii) Anther (03 marks)

B; .....

.....

C; .....

.....

b). Give **two** structural differences and similarities observed in the gynoecium of B and C

(i). Differences (02 marks)

B	C
1	
2	

(ii) Similarities (02 marks)

1. .....

.....

2. .....

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c) (i). Give **three** prominent features observed in the arrangement of florets in specimen D and suggest one benefit of each feature to the florets. (06 marks)

Prominent feature	Benefit
1-	
2-	
3-	

(ii). Remove a floret with an open corolla from specimen D. Cut the corolla longitudinally into equal halves. Using a hand lens observe the inner surface. Draw and label one half of the corolla from the inner surface. (05 marks)

(iii). How is the corolla of specimen D adapted for any two named functions? (02 marks)

1.....

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2.....

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END