

Name:.....

Centre/ Index No.....

School.....

Signature:.....

553/3
BIOLOGY
Practical
PAPER 3
July/August 2018
2 hours



WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Certificate of Education

BIOLOGY

(Practical)

Paper 3

2 hours

INSTRUCTIONS TO CANDIDATES:

- This paper consists of three questions.
- Answer all questions.
- Drawings should be made in the spaces provided.
- Use sharp pencils for your drawings.
- Coloured pencils or crayons should not be used.
- No additional sheets of writing paper are to be inserted in the booklet.
- Work on additional sheets will not be marked.

FOR EXAMINER'S USE ONLY.

Question	Marks	Examiner's No. & Initials
1		
2		
3		
TOTAL		

1. You are provided with specimen K. Cut out four equal cubes each measuring 1cm x 1cm x 1cm.
- Label four test tubes as; T₁, T₂, T₃ and T₄
 - Add 3cm³ of Hydrogen peroxide to test tubes T₁, T₂ and T₃.
 - Add 3cm³ of distilled water to test tube T₄.

(a). Carry out tests on the cubes following the instructions in the table below. Record your observations and deductions. (08marks)

TEST	OBSERVATIONS	DEDUCTIONS
(i) To test tube T ₁ Add one whole cube		
(ii) To test tube T ₂ Add one cube after cutting it into smaller pieces		
(iii) To test tube T ₃ Add one whole cube after boiling it for 5 minutes		
(iv) To test tube T ₄ Add one whole cube		

b) Name the active substance in K (0 ½ mark)

c) Name two factors being investigated in the experiment? (02 marks)

d) Explain your results in each test tube above.

(i) Test tube T₁

(02 marks)

(ii) Test tube T₂

(02 marks)

(iii) Test tube T₃

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(iv) Test tube T₄

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(02 marks)

(02 marks)

c) (i) Why was the measurement of the cubes used of the same size. (0½ marks)

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(ii) Name one other factor that affects the ingredient in K other than the ones investigated in the experiment. (01 mark)

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2. You are provided with specimens A, B and C which are fruits.

(a) Study the specimens carefully. Using the observable features complete the table below. (09 marks)

Specimen	Identity	Mode of dispersal	Features to support mode of dispersal
A			
B			
C			

(b) Cut specimen C transversally and open up specimen B

(i) Describe the arrangement of seeds in specimen C. (01 mark)

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(ii) Give three differences between specimen B and specimen C. (03 marks)

Specimen B	Specimen C

Turn Over

- (c) In the space below draw one of the sections of specimen C and label. State your magnification. (07 marks)

3. You are provided with specimens O, P, Q and R which are freshly killed animals. Using hand lens where possible, observe the specimens and answer the questions that follow.

- (a) Specimens O, P, Q and R belong to the same phylum. State three reasons why they belong to same phylum. (03 marks)

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- (b) Examine carefully the shape of the abdomen, eyes, wings and legs of specimens O, P, Q and R, with the aid of a hand lens. Describe their body parts and record two structural observable features of each specimen in the table below. (08 marks)

Body Parts	Specimen O	Specimen P	Specimen Q	Specimen R
Shape of abdomen				
Eyes				
Wings				
Legs				

- (c) Using the characteristic features of the abdominal shape, eyes, wings and legs of each specimen in (b) above, construct a dichotomous key to identify them. (03 marks)

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Turn Over
5

- (d) Place specimen O with its dorsal part upper most, using a hand lens, locate the neck region and cut it off. Draw and label the dorsal view of the head region of specimen O. State your magnification. (06 marks)

END

Each candidate should be provided with the following;

- Piece of Liver labeled **K** – (measuring 1cm by 1cm by 5cm).
- 10cm³ of hydrogen peroxide.
- 4cm³ of distilled water.
- 4 test tubes.
- Labels

• **Fruits of:**

- Desmodium labelled **A**
- Bean pod labelled **B**
- Ripe tomato labelled **C**

• **Freshly killed:**

- Soldier termite labelled **O**
- Mature cockroach labelled **P**
- Housefly labelled **Q**
- Tick labelled **R**
- Hand lens
- Common laboratory reagents
- Heat source

END