

553/2 BIOLOGY PRACTICAL Paper 2 July 2018 2 hours



ACEITEKA JOINT MOCK EXAMINATIONS 2018 UGANDA CERTIFICATE OF EDUCATION BIOLOGY PRACTICAL

Paper 2

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 paper are to be inserted in this booklet.

Work on additional sheets will **not** be marked.

| For Examiners' Use Only | | | |
|-------------------------|-------|---------------------------------|--|
| Question | Marks | Examiner's signature and number | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| Total | | | |



- 1. You are provided with specimen **W** and **X**, and solutions **P** which is a common laboratory reagent and distilled water. You are to carry out tests on specimen **W** and **X**, using solution **P** to investigate action of contents of specimen **W** and **X** on solution **P**.
 - (a) Label four test tubes as **A**, **B**, **C** and **D**. Add solution **P** and distilled water test tubes **A**, **B**, **C** and **D** as instructed in table 1.

Table 1

| Test tube | Add Solution P | And add distilled water |
|-----------|-----------------------|-------------------------|
| A | 3cm ³ | 0 |
| В | 1 cm^3 | 2 cm^3 |
| С | 0 | 3 cm^3 |
| D | 3 cm^3 | 0 |

- Cut 6 cubes from specimen **W** each of dimensions 1cm x 1cm. Also cut 2 cubes from specimen **X** each of dimensions 1cm x 1 cm x 1cm.
- Carry out the tests in table 2, record all your observations and deductions in table 2.

Table 2

| Test | Observations | Deductions |
|---|--------------|------------|
| (i) To test tube A, add 2 cubes from specimen W | | |
| (ii) To test tube B , add 2 cubes from specimen W | | |
| (iii) To test tube C, add 2 cubes from specimen W | | |

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| | test tube D , add 2 bes from specimen X | | |
|---------|---|--|---------------------------------------|
| | plain the results obtain Test tube A | ed in test tube A , B , and C . | (06 marks) |
| | | | |
| | | | |
| (ii) | Test tube B | | |
| | | | |
| | | | |
| (iii) | Test tube C | | |
| | | | |
| | | | |
| | | | |
| (c) Exp | lain the difference bet | ween results obtained in test tu | be A and D . (03 marks) |
| | | | |

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| 2. | You are provided with Specimen M and N which are animal parts. (a) (i) Describe the structure of specimen M . | (03 marks) |
|----|---|------------|
| | (a) (1) Describe the structure of speciment v1 . | (03 marks) |
| | | |
| | | |
| | | |
| | | |
| | (ii) Describe the airtight structure of Specimen N . | (03 marks) |
| | | |
| | | |
| | | |
| | | |
| | (b) From the structure described in (a), explain how each specimen is | |
| | function. | (04 marks) |
| | (i) Specimen M | |
| | | |
| | | |
| | | |
| | | |
| | (ii) Specimen N | (04 marks) |
| | | ••••• |
| | | ••••• |
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| | | |
| () D | | |
| (c) Put specin | nen N under water in a beaker then remov | e and shake it. |
| (i) Dagar | d vorm mografic | (01 masks) |
| (I) Recon | d your results. | (01 marks) |
| ••••• | | |
| ••••• | | |
| | | |
| (ii) What | is the importance of the results in c (i)? | (02 marks) |
| () | r | (, , , , , , , , , , , , , , , , , , , |
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| | | |
| (d) In the spa | ce below, draw and label the airtight struc | eture of specimen N. (05 marks) |
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| (B) | | |

| 3. | specim questic | | |
|----|-------------------|---|-----|
| | | amine the leaves on specimen \mathbf{P} , and state the class of plants from which specime was obtained. Give two reasons for the class stated. (2 marks) | |
| | | Class Class | KS, |
| | | | |
| | (ii) | Reason | |
| | | | |
| | | | |
| | | | |
| | (b) Exa | amine specimen ${f R}$, and explain how the specimen adapts the plant to survive on | 1 |
| | lane | | |
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(c) Examine the leaves of specimen **S** and the inner leaves of specimen **Q**. Give three differences between specimen **S** and specimen **Q**, basing on their leaves, in table 3.

(03 marks)

Table 3

| Specimen S | Specimen Q |
|------------|------------|
| | |
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| | |
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| | |

(d) (i) Examine the stem of specimen **P**, **Q**, **R** and **S**, and state three descriptive features of the stems in table 4. (Don't consider leaves)

Table 4

| Specimen | Descriptive feature |
|----------|---------------------|
| P | |
| Q | |
| R | |
| S | |
| | |

| (ii) From the descriptive features stated in table 4, construct a dichotomous key for | |
|---|---|
| identifying specimens P, Q, R, and S | (03 marks) |
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| (e) Draw and label the lamina of a leaf of specimen S | (05 marks) | |
| | | |

END