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
B	$1\ cm^3$	$2\ cm^3$
C	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**		

(iv) To test tube **D**, add 2 cubes from specimen **X**		

(b) Explain the results obtained in test tube **A, B,** and **C.** *(06 marks)*

(i) Test tube **A**

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(ii) Test tube **B**

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(iii) Test tube **C**

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(c) Explain the difference between results obtained in test tube **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)*

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(ii) Describe the airtight structure of Specimen **N.** (*03 marks)*

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(b) From the structure described in (a), explain how each specimen is adapted for its function. *(04 marks)*

(i) Specimen **M**

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(ii) Specimen **N** *(04 marks)*

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(c) Put specimen **N** under water in a beaker then remove and shake it.

(i) Record your results. *(01 marks)*

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(ii) What is the importance of the results in c (i)? *(02 marks)*

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(d) In the space below, draw and label the airtight structure of specimen N. *(05 marks)*

3. You are provided with specimen **P, Q, R** and **S**, which are parts of different plants. Cut specimen **Q** longitudinally. Examine the specimens as you answer the following questions.

   (a) Examine the leaves on specimen **P**, and state the class of plants from which specimen **P**, was obtained. Give two reasons for the class stated. *(2 marks)*

   (i) Class

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   (ii) Reason

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   (b) Examine specimen **R**, and explain how the specimen adapts the plant to survive on land. *(03 marks)*

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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**

(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