

NAME:-----INDEX NO:-----

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553/2

BIOLOGY PRACTICAL

PAPER 2

2 HRS

UGANDA CERTIFICATE OF EDUCATION

RESOURCEFUL MOCK EXAMINATIONS 2017

BIOLOGY PRACTICAL

553/2

TIME: 2 HOURS

Instructions to candidates:

- Answer **ALL** questions.
- Drawings should be made in the spaces provided.
- Work on additional sheets **will not** be marked.

1. You are provided with solutions W and X which are extracts from two maize seedlings at different stages of germination. One of the extracts is from a two day old and the other from four day old seedlings.

By using the reagents provided carry out the following tests to determine which extract was obtained from two days old and four day old seedlings. Record your observations and deductions in the table below. **(8½ marks)**

TABLE I

TESTS	OBSERVATION	DEDUCTION
(a) (i) To 1cm ³ of extract W add 2 drops of Iodine solution.		
(ii) Repeat procedure (a) (i) above using extract X		
(b) (i) To 1cm ³ of extract W add 1cm ³ of Benedict's solution and boil.		
(ii) Repeat procedure (b)(i) above using extract X		

- (c) Suggest which extract was from seedlings germinated for 2 days and four days.

(i) Germinated for 2 days.

.....

(ii) Germinated for 4 days.

.....

(d) Give an explanation for suggesting the answers in (d) above (04 marks)

.....

(e) Obtain 10 seedlings of Y and crush them using a mortar and pestle.
 Add 10cm³ of water and decant the extract into a clean boiling tube then label it Y.

Carryout the following tests on Y and record your observations and deductions in the **table 2** below. (3½ marks)

TABLE 2

TESTS	OBSERVATION	DEDUCTIONS
To 1cm ³ of extract Y add 2 drops of Iodine solution.		
To 1cm of extract Y add 1cm ³ of Benedict's solution and boil.		

(f) (i) From the table 2 suggest the age of seedlings. (½ mark)

.....

(ii) Give an explanation for your answer in g(i) above. **(03 mark)**

.....
.....
.....
.....

1. You are provided with specimens P, Q and R which are flowers.

(a) Using two observable features in each case suggest the mode of pollination of each specimen.

(i) Mode of pollination of Q. ($\frac{1}{2}$ marks)

.....

Features (02 marks)

.....

.....

(ii) Mode of pollination of R ($\frac{1}{2}$ marks)

.....

Features (02 marks)

.....

(i).....

(ii).....

(b) Give three structural differences between P and Q. (05 marks)

Specimen P	Specimen Q

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(c) State two advantages of specimen P and Q over R. (02 marks)

.....
.....
.....
.....

(d) State three adaptations of specimen R to its mode of pollination. (03 marks)

(i).....
.....
(ii).....
.....
(iii).....
.....

(e) Remove the petals and Sepals of the specimen Q. Draw and label the remaining part of the specimen. State the magnification of your drawing.

2. You are provided with specimens Q₁, Q₂ and Q₃ which were obtained from the same animal.

(a) Identify with reasons each specimen. (4½ marks)

(i) Q₁.....
Reason.....
.....

(ii) Q₂.....
Reason.....
.....

(iii) Q₃.....
Reason.....
.....

(b) State the part of the body from which each specimen was obtained.

(1½ marks)

(i) Q₁.....

(ii) Q₂.....

(iii) Q₃.....

(c) State two adaptations of each specimen to its function in the organism.

Specimen	Adaptations
Q1	
Q2	

Q3	

(d) Name the structure that articulates with the anterior part of ;

Q1.....

Q2.....

Q3.....

(e) What type of joint is found;

(f) (i) At the interior end of specimen Q₁.

(1/2mark)

.....

(ii) Between Q₁ and Q₃

(1/2 mark)

.....

(g) Make a well labeled drawing of specimen Q₃ State your magnification.

(5 1/2 marks)

END