P530/3

BIOLOGY **JINJA PROGRESSIVE SECONDARY SCHOOL-JIPRA**

PRACTICAL

Paper 3

June, 2024

$3^{1}/_{4}$ hours

TERM II **UGANDA ADVANCED CERTIFICATE OF EDUCATION**

Biology Practical Test II 2024

Paper three

3Hours 15Minutes

INTRUCTIONS TO CANDIDATES:

- This paper consists of **three** questions.
- Attempt **all** questions
- Write the answers in the spaces provided. Additional sheets of paper must not be inserted in this booklet.
- You are not allowed to start working within the first **15minutes**. You are advised to use this time to **read** through the paper and ensure that you have all the apparatus, chemicals and specimens you may require.

FOR EXAMINERS' USE ONLY

Question	**Marks**	**Examiner's signature**
1		
2		
3		
Total		

1. You are provided with specimen **Q** which is freshly killed.

(a) With reasons Identify the;

i) Phylum……

Reasons **(03 marks)**

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ii) Class……

Reasons **(03 marks)**

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(b) Examine the inner structures within the buccal cavity with aid of dissecting instruments.

(i) How is the structure and attachment of tongue related to function? **(03 marks)**

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(ii) Draw and label observable features of the roof of buccal cavity. **(07 marks)**

(c) Unpin the specimen and pin it again ventral side up. Dissect the specimen to display the internal structures. Continue to;

(i) Expose vessels that supply blood to structures on the left of the abdominal cavity excluding liver lobes and gonads from the heart.

(ii) Display structures dorsal to the visceral.

Draw and label your dissection in c (i) and (ii). **(25 marks)**

2. You are provided with solution **O** and **P** from plant organ.

(a) Carry out tests on the solutions as indicated in table 1. Record your tests, observations and deductions in table below.

Tests	**Solution**	**Observation**	**Deductions**
Iodine test	**X**		
	P		
Benedict's test	**X**		
	P		
Biuret test	**X**		
	P		

DCPIP test	**X**		
	P		

(a) Label four test tubes as 1, 2, 3 and 4 and put contents in each test tube as indicated in table 2.

Table 2

Test tube	**Contents**
1	2 cc of **X** and 2cc of **P**
2	2 cc of **X** +1cc of **P** and 1cc of dilute hydrochloric acid
3	2cc of **X** +1CC of **P** + 1cc of dilute sodium hydroxide solution
4	2 cc of **X** + 2cc of boiled and cooled **P**

Incubate the test tubes in a water bath maintained at **37-40^{0}C for 1^1/$_2$ hours**. After which carryout tests in table 3 and record your observations and deductions in the table below.

Table 3

Test	**Observation**	**Deduction**
(i) Divide contents in test tube 1 into four portions. On the first portion, carry out an iodine test		
(ii) On the second portion carryout a Benedict's test		
(iii) On the third portion carry out a Biuret test		

(iv) On the fourth portion, carry out DCPIP test		
(v) Carryout a Biuret test on the contents of test tube 2		
(vi) Repeat test (v) using contents of test tube 3		
(vii) Divide contents of test tube 4 into 2 portions Carryout a Biuret test on the first portion		
(viii) Carry out a DCPIP test on the second portion		

(b) Explain your results in table 3

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(c) From your results, state the nature of extract **P**.

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3. You are provided with specimens **R, S, T, W** and **V** which are plant organs.

(a) Describe the pattern of floret arrangement in

(i) **R** (02marks)

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(ii) **W** (02marks)

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(b)(i) Carefully remove the other floral parts to expose gynoecium of **S** and observe using a hand lens. State two differences between the observable features of gynoecium of **T**and**W** (02marks)

Gynoecium of S	**Gynoecium of T**

(ii) How is the gynoecium of **T** adapted for pollination? (02marks)

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(d) Using low power of a microscope, observe.

(i) The gynoecium of **S**. Draw and label.**(04marks)**

(ii) One inner floret of **R**. Draw and label. **(05marks)**

(iii)One unit of **V** What structures in **R** develop into its named structures? **(02 marks)**

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(d) How is specimen **V** adapted for dispersal from the parent plant? **(01 mark)**

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(e) Describe the structure of the gynoecium of one floret of **W**. **(02marks)**

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(f) Limiting to only essential reproductive parts, construct a dichotomous key for the identification of **R, S, T** and **W** **(03marks)**

END