1. You are provided with specimen R which is freshly killed.
   a) Examine the structure of the hind limbs and describe four ways they suit the organism to colonize land. (4 marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

   b) Open up the mouth of specimen and give two ways in which the observable bony structures are suited to perform their function. (4 marks)

.....

.....

.....

.....

.....

.....

c) (i) Dissect the specimen to display the superficial structures that lie posterior to the thoracic region but anterior to the gastrocnemius. Draw and label the structures. (10 marks)

(ii) Further dissect the specimen and remove the organs responsible for digestion, absorption and removal of undigested matter. Also dissect the pelvic girdles to expose the blood vessels that drain the left hind limb, reproductive and urinary structures. Draw and label.

(12 marks)

2. You are provided with solution **M** and an extract **N** from a plant organ.

   a) Describe procedures for tests indicated in table 1 below and record your observations and deductions too. **(20 marks)**

Table 1.

Test	Solution	Observation	Deduction
Iodine test	M		
	N		
Benedict's test	M		
	N		
Biuret test	M		
	N		
DCPIP	M		
	N		

b) Obtain four test tubes and label them as **T1, T2, T3** and **T4** and in each of them, place solutions as indicated in the table 2 below.

Table .2.

Test tube	Solutions
T1	$2cm^3$ of M followed by $2cm^3$ of N
T2	$1cm^3$ of N followed by $1cm^3$ of solution H and then 2 cm^3 of M.
T3	$1cm^3$ of N followed by $1cm^3$ of solution I and then 2 cm^3 of M.
T4	2 cm^3 of M followed by $2cm^3$ of 3minutes boiled and cooled solution N,

Place the test tubes in a water bath maintained between 35 to 40 °C for 1 hour as you proceed with other work. After 1 hour, carry out the tests indicated in table 3 below and record your observations and deductions only. (13 marks)

Table 3.

Test	Observations	Deduction
Divide solution in test tube **T1** into four portions. i) Carry out iodine test on the first portion		
ii) Carry out Benedict 's test on the second portion.		
iii) Carry out biuret's test on the third portion.		
iv) Carry out DCPIP test on the fourth portion.		
v) Carry out Biuret's test on solution in **T2**		
vi) Repeat test (v) above using solution in **T3**		
vii) Divide		

solution in test T4 into two portions. Carry out buirets test on the first portion.		
viii) Carry out DCPIP test on the second portion.		

C) (i) explain your results in table 3 above. (04 marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

ii) From your results, state the nature of extract N (1 mark)

.....

.....

.....

3. You are provided with specimens **F1**, **F2**, **F3**, **F4** and **F5** which are organs picked from different plants. Using a knife/ surgical or razor blade where possible, cut open longitudinally specimens **F4** and **F5** and cut the rest transversely to obtain two halves.

a) (i) Using the table below, describe seed arrangement for each specimen. (7 marks)

Specimen	Seed arrangement
F1	
F2	
F3	
F4	
F5	

(ii) Examine the point of attachment of seeds in specimen F 2. Give two importance of the attachment to the seeds' survival. (2 marks)

.....

.....

.....

.....

b) (i) Describe how specimen F5 is dispersed (3 marks)

.....

.....

.....

.....

.....

(ii) Explain how the mode of dispersion of specimen F3 gives it a better ecological survival advantage to that of F4. (1 mark).

.....

.....

.....

C)(i) Describe in five ways the structure of the internal parts of each specimen (10 marks)

F1

.....

.....

F2

.....

.....

F3

.....

.....

F4

.....

.....

F5

.....

.....

c) Construct dichotomous key to identify the specimens. (4marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

d) Make a well labeled drawing of one section of specimen F 3.
(5 marks)

End

NAME.....INDEX NUMBER.....

SIGNATURE.....

P530/3

BIOLOGY PAPER 3, (PRACTICAL)

JULY/AUGUST 2023

3 ¼ HOURS.

UGANDA PRIVATE AND INTERGRATED SCHOOLS ASSOCIATION

UGANDA ADVANCED CERTIFICATE OF EDUCATION

FINAL ASSESSMENT EXAMINATIONS YEAR 2023

BIOLOGY (PRACTICAL)

PAPER 3

TIME: 3 ¼ HOURS.

Instructions to candidates.

- ✓ *This paper consists of three questions. Attempt all three questions.*
- ✓ *You are advised to take a few minutes to read through the questions and plan well.*
- ✓ *Write the answers for each question in the spaces left.*
- ✓ *Use a sharp pencil and a clean eraser for your drawings. You will lose marks for untidy drawings.*
- ✓

For examiners use only		
Number	Marks	Examiners number and signature
1		
2		
3		
TOTAL		