NAME:…… INDEX NO:…….

SIGNATURE:……

P530/3

BIOLOGY

PRACTICAL

PAPER 3

3 ¼ HOURS

FISHER BRANCH KALAGALA HIGH SCHOOL

Uganda Advanced Certificate of Education

MOCK EXAMINATION

BIOLOGY PRACTICAL

PAPER 3

3 HOUR 15 MINUTES

Instructions to candidates;

- *This paper consists of three questions.*
- *Answer all questions.*
- *Write the answers in the spaces provided. Additional sheets of paper must not be inserted in the booklet.*
- *You are not allowed to start working within the first 15 minutes. 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 AND NO.**
1		
2		
3		
Total		

1. You are provided with specimen K which is fleshly killed.

a) Examine the external features of the specimen.

i) Explain the importance of the structural differences between the fore foot and the hind foot to the mode of life of the animal.(6 marks)

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ii) State how three features of the lower trunk region provide protection to the animal? (6 marks)

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b) i) Skin the right hind leg of the specimen to K to expose the muscles on either side of the knee joint. Lay the specimen with dorsal side up. Draw and lable your dissection. (12 marks)

c) pin to dissect specimen K to display blood vessels that

i) Supply blood to the urinary structures and those on the upper jaw.

ii) Draining blood from the right hind limb and the structures responsible for chemical digestion of carbohydrates. Draw and label your dissection when the heart is undisplaced. (26 marks)

2. You are provided with seeds of sorghum at different stages of germination A (24 hours), B (72 hours) and C (120 hours) after planting. Solutions of sucrose, maltose and yeast are also provided. Obtain a table spoonful (or about 10g) of each seed category and make 3 different exacts, separately in a motor and pestle. Grind for short time add 30ml of water and stir, transfer the ground material in a small beaker and allow to stand for about 10 minutes. Decant off 4mls of each extract separately, divide the mls extract into two. To one half of extract add about 1ml of yeast solution, mix well and leave to stand. Leave the other half of the extract as a control. Also divide the sucrose and maltose solution into two and add 1ml of yeast to one half of each solution. Leave the set up to run for 1 hour. After 1 hour, test all the extracts and solutions, experimental and control, with Benedict's reagents, do not heat for more than 2 minutes. Also test 3mls of yeast solution with Benedict's reagents. Record your observations/results accurately in the table provided; (20 marks)

Extract solution	Content	Results
A 24 hours	A + yeast	
	A control	
B 72 hours	B + yeast	

	B control	
C 120 hours	C + yeast	
	Sucrose control	
Maltose	Maltose + yeast	
	Maltose control	
Sucrose	Sucrose + yeast	
	Sucrose control	
Yeast		

(a) Comment briefly on the results of the experiments (4 marks)

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(b) On evidence of your observations suggest what changes may be taking place in the seeds (4 marks)

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(c) By comparing the results from the sucrose and maltose solutions with those of seed extracts, identify the substances being formed in germinating seeds (3 marks)

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(d) State the physiological significance of this experiment (2 marks)

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3. a) You are provided with specimen N and M which are plant parts. Carefully peel off a single epidermal layer of cells from the upper side of the specimens N and M using your finger nail. Stain the specimen using methylene blue, and then while observing under the medium power of the microscope;

   i. Describe the structure of specimens N and M (6 marks)

   N.....

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   M.....

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ii. State the adaptation of specimen N to its function(3 marks)

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iii. Draw and label the two cells of specimens N and M (10 marks)

b) Outline the differences between the tissues of the two specimens (2 marks)

Specimen N	Specimen M

END