ALLIANCE HIGH SCHOOL

NAME:_____ INDEX NO:_____
ADM.NO:_____ CLASS:_____

231/2
BIOLOGY
PAPER 2
JULY 2014
2 HOURS

ALLIANCE HIGH SCHOOL
TRIALS

This paper consists of two sections A and B.
Answer all the questions in section A in the spaces provided.
In section B answer question 6(compulsory) and either 7 or 8 on the foolscap provided.

For Examiners Use Only

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
A	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
B	6	20	
	7	20	
	8	20	
Total Score			

SECTION A

1. a) Mr and Mrs Okello have a child who is an albino. What is the probability that their 5th and 6th children will both be albinos. Show your working. (5 mks)

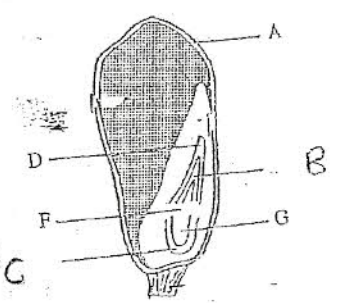
b) State the three roles of DNA (3 mks)

i) _____

ii) _____

iii) _____

2. The figure below shows longtitudinal section through a maize seed.



a) Name the structures labeled A to D (4 mks)

A _____

B _____

C _____

D _____

b) Name three factors in seeds that cause seed dormancy. (3 mks)

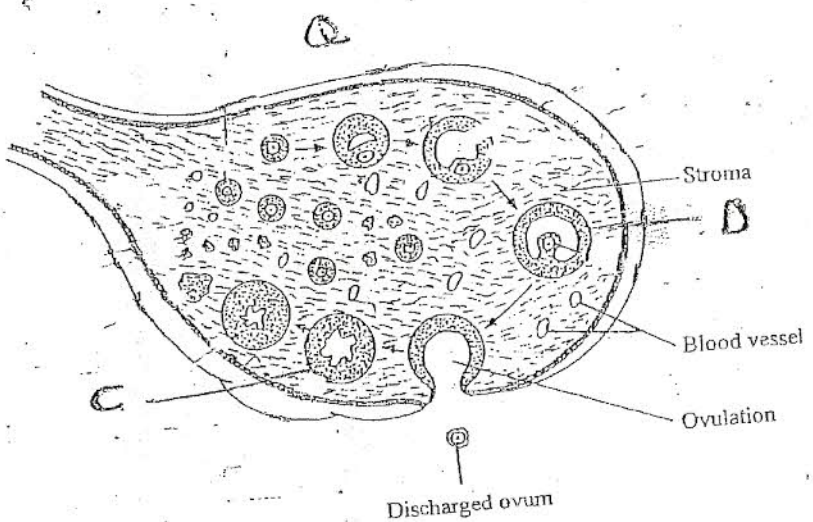
i) _____

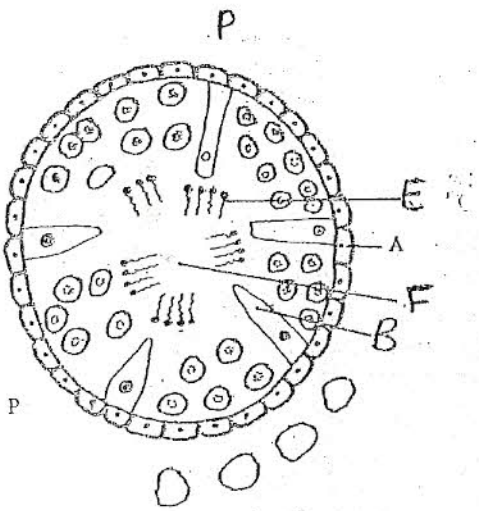
ii) _____

iii) _____

c) What is the role of florigen in plants. (1 mk)

3. Figure Q and P shows tissues from male and female reproductive organs as seen under the light microscope.





a) Identify Q and P (2 mks)

Q _____

P _____

b) Name the structures labeled. (4 mks)

A _____

B _____

C _____

D _____

c) What are the functions of the following parts. (2 mks)

B _____

C _____

4. a) Explain why plants do not require specialized excretory organs. (4 mks)

_____

_____

_____

_____

_____

b) Explain what happens in humans when concentration of glucose in the blood decreases below the normal level. (4 mks)

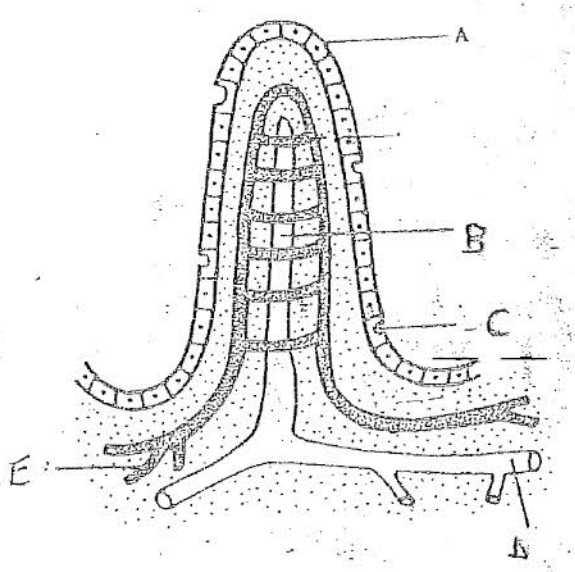
_____

_____

_____

_____

5. The diagram below shows a structure found in the small intestine.



a) Name the structure. (1 mk)

b) What role does this structure play in animal nutrition. (1 mk)

_____

_____

c) Name the parts labeled

A _____

B _____

C _____

D _____

d) What are the functions of the following enzymes (2 mks)

i) Peptidase

_____

ii) Trypsin

_____

SECTION B

6. An experiment was carried to investigate transpiration and absorption of water in sunflower plants in their natural environment with adequate supply of water. The amount of water was determined in two hour intervals. The results are shown in the table below.

Time of day	Amount of water in grammes	
	Transpiration	Absorption
1100 - 1300	33	20
1300 - 1500	45	30
1500 - 1700	52	42
1700 - 1900	46	46
1900 - 2100	25	32
2100 - 2300	16	20
2300 - 0100	08	15
0100 - 0300	04	11

a) Using the same axes, plot graphs to show transpiration and absorption of water in grammes against time of the day. 7 mks)

b) At what time of the day was the amount of water the same for transpiration and absorption? (1 mk)

c) Account for the shape of graphs of

i) Transpiration (3 mks)

ii) Absorption (3 mks)

d) What would happen to transpiration and absorption of water if the experiment was continued till 0500 hours. (2 mks)

e) Name two factors that may affect transpiration and absorption at any given time. (2 mks)

f) Name the tissues in plants responsible for. (2 mks)

a) Transport of carbohydrates

b) Primary growth.

7. Discuss the various evidences of organic evolution. (20 mks)

8. Describe the events that take place in the mammalian heart to complete one heart beat. (20 mks)