



MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education
PRE-MOCK EXAMINATIONS 2022

231/2

BIOLOGY

Paper 2

JUNE 2022 –

2Hours

Name: Adm No:

Class: Candidate's Signature: Date:/6/2022.

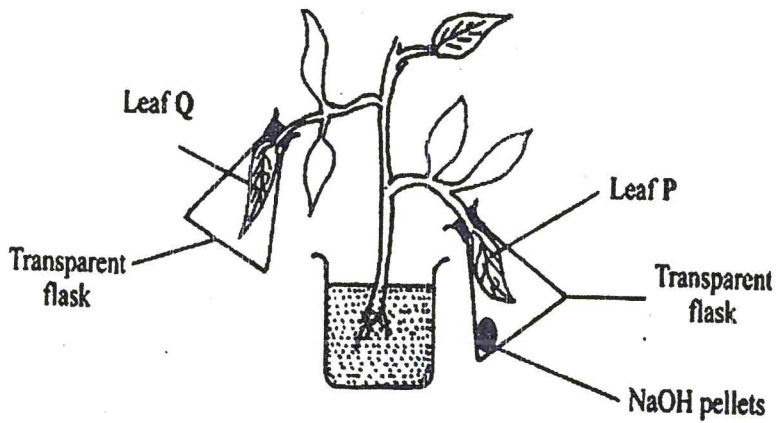
INSTRUCTIONS TO CANDIDATES:

- Write your name and admission number in the spaces provided.
- Sign and write date of examination in the spaces provided above
- Answer all the questions in section A in the spaces provided.
- In section B answer question 6 (compulsory) in the spaces provided and either question 7 or 8.
- You are required to spend the first 15 minutes of the 2 hours allowed for this paper reading the whole paper carefully.

FOR EXAMINER'S 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		80	

1. 1. In an experiment to investigate a certain aspect of photosynthesis, two leaves Q and P from a de-starched potted plant were treated as shown on the diagram below.



The plant was then placed in an open field for three hours after which a certain test was carried out on the two leaves to find out if photosynthesis had taken place.

a i) Which aspect of photosynthesis was being investigated? (1mark)

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ii) How was the potted plant de-starched? (1mark)

.....

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bi) What test was carried out to tell whether photosynthesis has occurred? (1mark)

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ii) Account for the expected result when the test named in b(i) above was carried out on leaves Q and P. (4marks)

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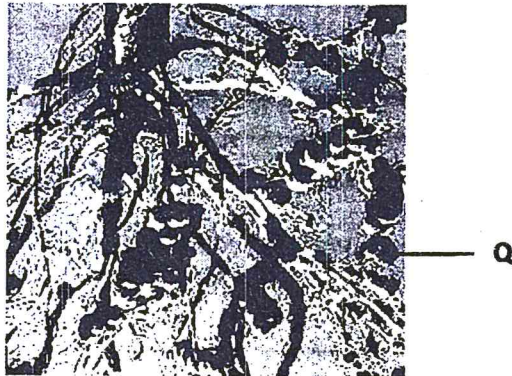
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3. The diagram below shows a root system from a certain plant



a) Name structure Q

(1mark)

ii) Explain briefly the significance of having structures Q in the root system of the plant represented above.

(4marks)

b) What mode of nutrition is demonstrated in the diagram?

(1mark)

c) With a reason, state the class to which the plant represented in the diagram belong? (2mark)

Class

Reason

4. A student set up the following apparatus using soaked bean seeds and boiled bean seeds to investigate a certain biological phenomenon.

5. A baby has blood group B while the mother's blood group is A. The paternal grandfather is blood group B and the paternal grandmother is blood group A.

a) Determine the genotypes of the baby's: - (4marks)

i) Paternal grandfather -----

ii) Paternal grandmother -----

iii) Father -----

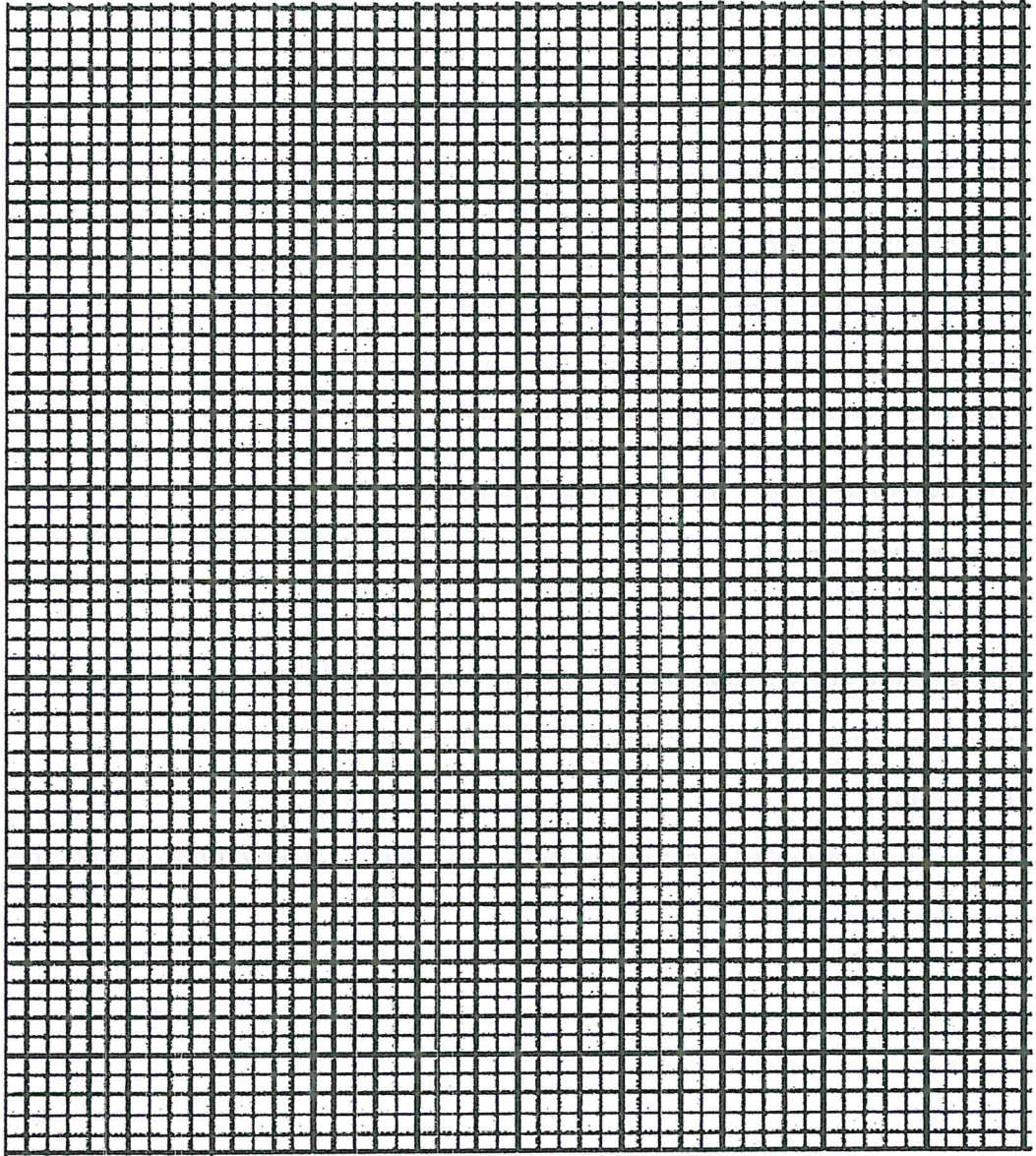
iv) Mother -----

b) If the mother and father have non-identical twins, what is the probability that both children will have blood group B? Show your working. (4marks)

6. In a certain school invaded by mosquitoes and cockroaches, students collected a data on the population of each species over a period of two weeks. The results are tabulated below.

DAY	1	3	6	9	12	15
Number of mosquitoes	35	60	130	210	260	250
Number of cockroaches	20	40	56	70	75	80

a) On the same axes plot the graphs of the two populations against time. (7marks)



b) State the most suitable equipment to collect each of the species: - (2marks)

i) Cockroaches -----

ii) Mosquitoes -----

c) Account for the shape of the curve for the mosquitoes between: - (4marks)

i) 1st and 3rd day

ii) 12th and 15th day

d) Mosquitoes are vectors of a certain parasite.

i) Name the parasite. (1mark)

ii) Name the disease caused by the parasite named in d(i) above. (1mark)

e) Explain: -

i) One way that makes cockroaches better adapted in the environment than the mosquito.

1mark)

ii) Why the population of mosquitoes is not affected by the population of the cockroaches.

(1mark)

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