



MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education
THE MOCK EXAMINATIONS, 2026

231/2

BIOLOGY

PAPER 2

May 2026

Time: 2Hours

Name: **Admission No:**

Stream: **Signature:** **Monday, 5th June, 2026; 8:00-10.30am**

Instructions

FOR EXAMINERS'USE ONLY

Section	Question	Maximum Score	Candidate's Score
A	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
	6	20	
B	7	20	
	8	20	
Total Score			

1. The diagram represents members of Kingdom Animalia:



i) To which class of Chordates does organism A belong? (1 mark)

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ii) State **two** observable features to justify your identity in (i) above. (2 marks)

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iii) How are the wings of organism A different from the wings of organism B? (2 marks)

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(iv) Suggest the type of evolution exhibited between the wings of the organism A and that of organism B. (1 mark)

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(v) Apart from having a streamlined body, how are the following structures modified to enhance flight in specimen A?

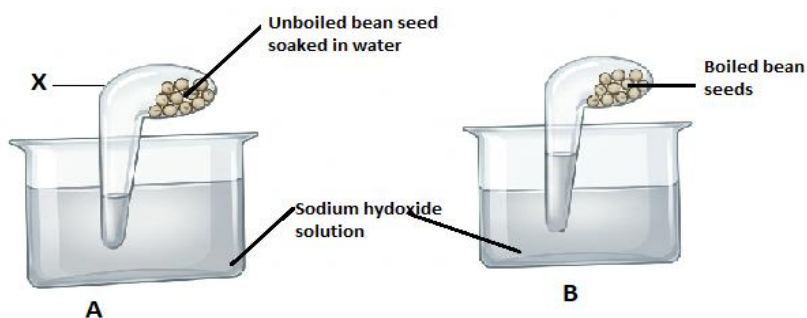
(i) Sternum (1 mark)

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(ii) Hind limbs (1 mark)

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2. Students at Jakaranda Senior School carried out an experiment to investigate a physiological process in living organisms. Study the set-up used and answer the questions that follow:



a) (i) State the aim of the experiment. (1 mark)

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(ii) Name the apparatus labeled X. (1 mark)

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(iii) Explain the convenience of the apparatus in this experiment. (1 mark)

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b) Explain the observation made in set up A. (2 marks)

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c) Comment on the importance of set up B in this experiment. (1 mark)

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d) State the adaptations of pneumatophores to gaseous exchange. (2 marks)

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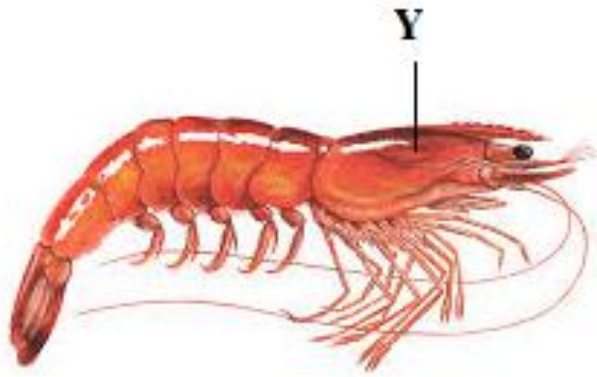
3. a) State **three** ways through which plants compensate for their inability to undergo locomotion. (3 marks)

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b) Study the diagram:



i) Name the structure labelled Y. (1 mark)

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(ii) State **three** functions of structure Y. (3 marks)

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c) Name the type of skeleton that provide support for the organism in (b) above. (1 mark)

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4. During a court hearing involving two conflicting couples, it was noted that their sons were hemophiliac while the girls were normal. The man wanted a divorce claiming the wife was the cause of their children's disorder.

a) Was the claim by the husband justified? (1 mark)

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b) Give a reason for your response in (a) above. (1 mark)

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(c) State the genotypes of the couple. (2 marks)

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d) Using letter **H** for normal gene and h for recessive gene, work out the genotypes of the F1 generation. (4 marks)

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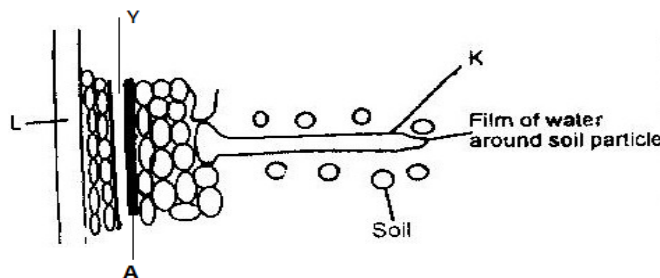
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5. The diagram below represents the pathway of water from the soil into the plant.



(a) Explain how water from the soil reaches the structure K. (3 marks)

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b) Name the structure marked Y. (1 mark)

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c) State the physiological process involved in water movement across structure Y. (1 mark)

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d) Students poured iodine solution around structure K. After 30 minutes, they made a cross section through region A. Parts of region A stained blue black. Explain. (1 mark)

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e) Name the substance in region A which makes it impermeable to water. (1 mark)

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(f) Explain how glossy nature of the leaf affect the rate of transpiration. (1 mark)

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SECTION B (40 MARKS)

Answer question 6 (compulsory) and either question 7 or 8 in the spaces provided after question 8

6. The numbers of different types of animals supported by a square kilometer in two terrestrial ecosystems are shown in the table below.

Type of ecosystem	Type of animal	Number of animals supported per square km
Acacia/ Savanna	Domestic animals	
	Cattle	7
	Goats	30
	Sheep	10
	Wild animals	
	Thomson gazelles	450
	Elland	20
Bushland	Wild beasts	60
	Domestic animals	
	Cattle	2
	Goat	15
	Sheep	5
	Wild animals	
	Thomson gazelles	200
	Elland	20
	Wild beasts	10

(i) Which domestic animal is better adapted to both ecosystems? (1 mark)

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(ii) Give a reason why the animal in (i) above is better adapted to the two ecosystems. (1 mark)

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(b) (i) Why are cattle and sheep fewer in the bush land than in the savannah? (1 mark)

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(c)(i) Name a suitable method that was used to estimate the population of domestic animals. (1 mark)

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(ii) Give a reason why the method named in c(i) above is suitable. (1 mark)

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(d) State **three** methods which could be used to determine the diet of wild animals in an ecosystem (3 marks)

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(e) Name **four** biotic factors that could have regulated the animal population in both ecosystems (4 marks)

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(f) State **four** human activities that affect populations of animals in game parks. (4 marks)

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(g) What is the importance of national parks to a nation? (3 marks)

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(h) State **one** effect of eutrophication. (1 mark)

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7. A grade ten student from Maranda High School took a meal of boiled maize. Describe the process of digestion that took place in his alimentary canal. (20 marks)

8. a) Explain the **two** main principles of Lamarck's theory of evolution. (6 marks)

b) In Britain there are two species of moth i.e. Black melanic form and speckled white variety. The Black melanic form is predominantly found in urban areas while the speckled white variety is predominantly found in rural areas. Briefly explain this phenomenon of evolution. (14 marks)

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