MARANDA HIGH SCHOOL

Kenya Certificate of Secondary Education

THE MOCK EXAMINATIONS, 2025

231/1	BIOLOGY	PAPER 1
	May/June, 2025	TIME: 2Hrs

Name: ……..…… Admission No: ……

Stream: …….. **Signature**: ……..... **Tuesday, 27th May, 2025; 10:45-12:45pm**

Instructions

(a) Write your name, admission number, date, stream and signature in the spaces provided above.
(b) All answers must be written in the spaces provided in this question paper.
*(c) This paper consists of **12** printed pages with **26** questions.*
(d) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing
(e) Candidate should answer the questions in English

FOR EXAMINERS'USE ONLY

Question	Maximum Score	Candidate's score
1-25	80	

1.How does nutrition as a characteristic of living organisms differ in plants and animals.

(2marks)

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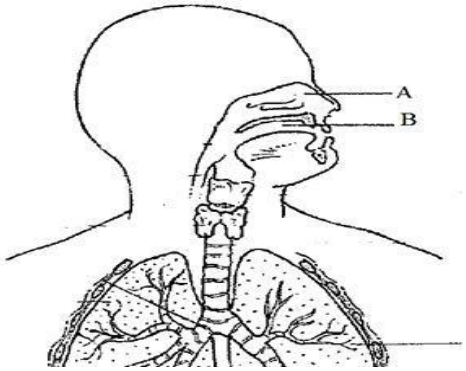
2.The diagram below represents a certain organ system in human. Study it to answer the questions that follow.



(i) Identify the part labeled **A**. (1 mark)

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(ii) Give **three** adaptations of the part named above. (3 marks)

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(iii) A form two student wanted to kill a cockroach by immersing its head in water for 35 minutes. Explain why it could not be drown. (1 mark)

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3.(a) What is cell specialization? (1 mark)

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(b) State **two** Specialized cells in pancreas. (2 marks)

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4.(a) Apart from iodine solution, name any other stain used during preparation of a temporary slide. (1 mark)

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(b) Using a microscope, a student counted 45 cells across a field of view. Whose diameter was 5000µm. Calculate the average length of the cells. Show your working. (2 marks)

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5.(a) Name the **two** end products of lipids breakdown (2 marks)

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(b) State the part of alimentary canal where the above digestion takes place. (1 mark)

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6(a) Sketch a curve to show the effect of carbon (IV) oxide concentration on the rate of photosynthesis. (1mark)

b).Explain the shape of the curve drawn above. (2 marks)

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c) State **three** ways in which carbon (IV) oxide is transported in animals. (3 marks)

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7.Name **two** theories that explain the evolution mechanism. (2 marks)

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8.Define the term organic evolution. (1 mark)

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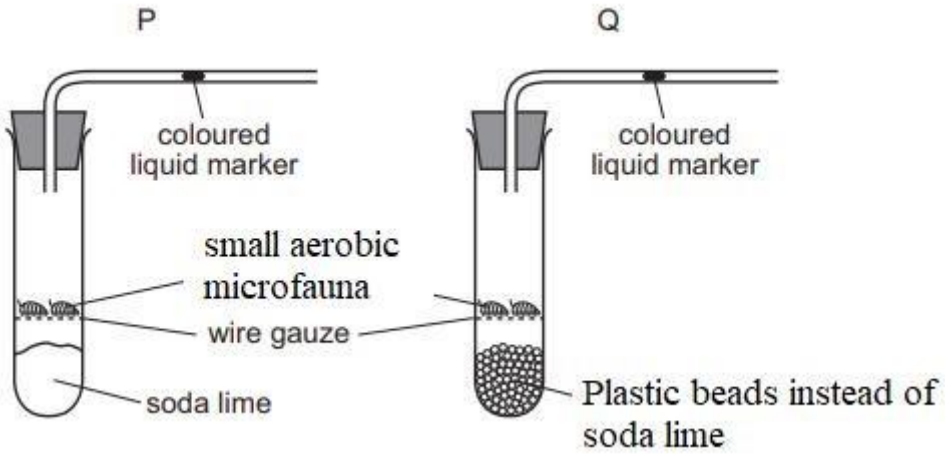
9.The experimental set-up below was used by students at school to investigate a certain physiological process.



(a) Why was set-up **Q** included in the experiment. (1 mark)

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(b) State and explain the observations made in set-up **P** above. (3 marks)

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10.Name **two** gaseous exchange structures found only in aquatic plants. (2 marks)

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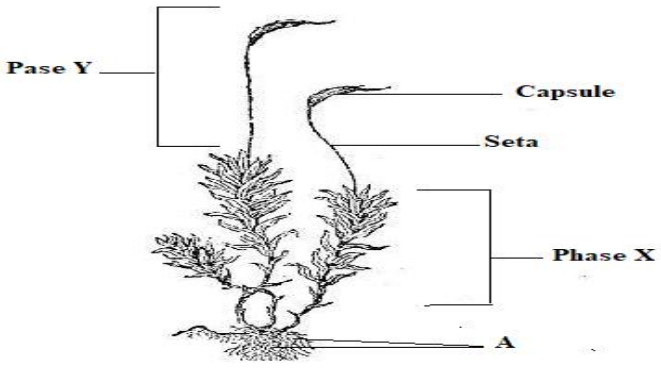
11.List **two** differences between class Mammalia and Aves. (2 marks)

Mammalia	**Aves**

12. Study the diagram of the specimen below to answer the questions that follow.



(a) dentify phase **X** and phase **Y**. (2 marks)

X……...……...……

Y……...……...…….

(b) Define the term alternation of generation (1 mark)

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13.In a case of disputed parenthood, a couple with 7 children went to court challenging the right parenthood of their last born son. The lawyer argued the case with fact that the Father had blood group **A** (heterozygous) and mother had blood group **B** (heterozygous) and saying there is no way they could have gotten the son whose blood group was different from them. Using a genetic cross, show the two possible blood groups that could have sparked the case.

(5 marks)

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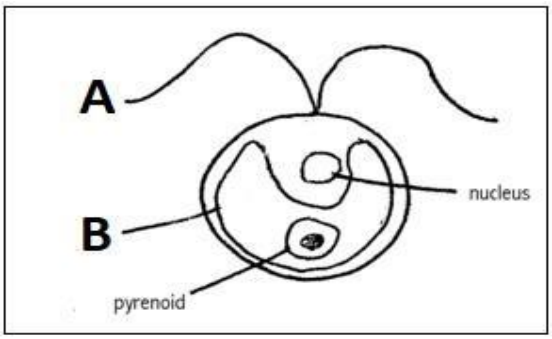
14.The diagram below represents a living organism. Study it and answer the questions that follows.



(a) (i) State the kingdom in which the organism belongs. (1mark)

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(ii) Give a reason for your answer. (1mark)

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(b) .State the difference between structure labelled **B** and the one found in spirogyra (1mark)

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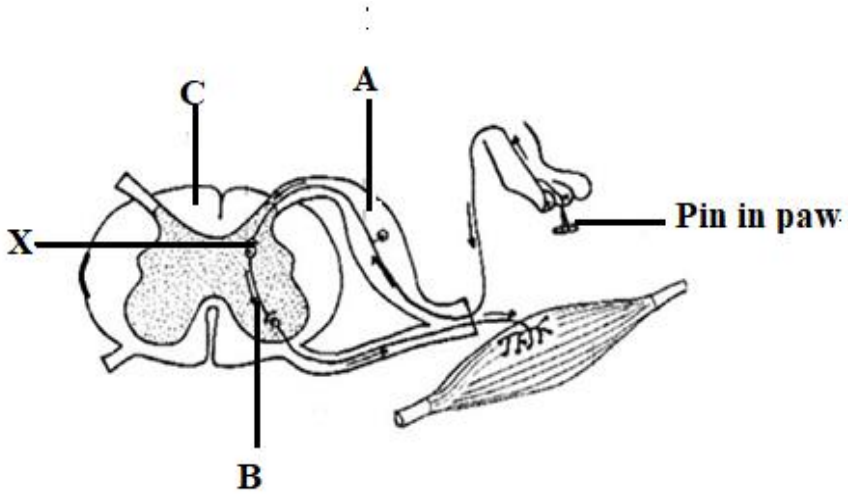
15. The diagram below indicates a type of response in a given animal when touching a sharp object.



(a).Name the part labelled **A**. (1 mark)

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(b).In the space provided below give the letter(s) that represents the part of the reflex arc that consists mainly of axons of sensory and motor neurons. (1mark)

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(c).State the role of part labeled **B**. (1mark)

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(d).Name the enzyme that enable proper functioning in the part laballed **X**. (1mark)

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16.Explain why plants and turtles increases in size as long as they live. (2marks)

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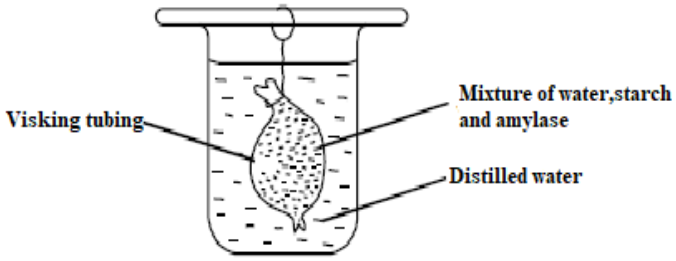
17. The set up below was prepared by a form one student study it and answer the question that follows.



a) After a few hours it was found that reducing sugars were present in the distilled water. **State** what happened;

(i) Inside the the visking tubing (1mark)

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(ii) At the walls of the visking tubing (1mark)

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(b) Give the role of the physiological process above in reproduction in plants (1mark)

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18.(a) Distinguish between parthenocarpy and parthogenesis (1mark)

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(b).Name **one** fruit where parthenocarpy takes place. (1 mark)

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19.What is the causative agent of the following conditions?

(a) Bilhazia (1mark)

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(b) Candidiasis (1mark)

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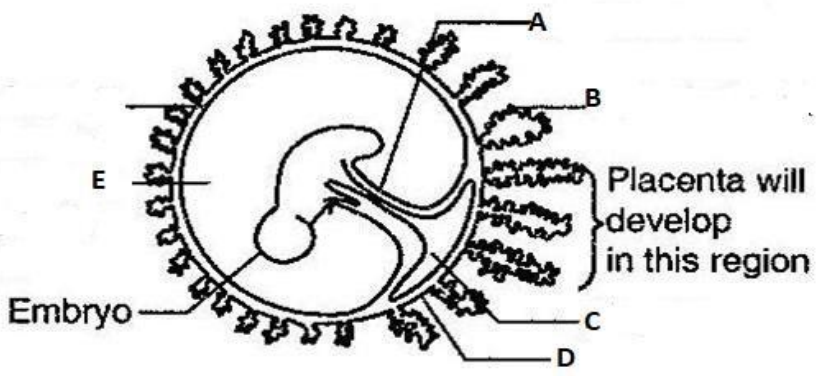
20. The diagram below illustrates the relationship between the human embryo and its embryonic membranes. Study it and answer the questions that follow:



(a) Name the parts labelled **B** and **C**

B:……..…(1mark)

C:……..……...……(1mark)

(b) (i) What makes up the part labeled **E?** (1 mark)

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(ii) Give **two** roles of component named in (b)(i) above (2marks)

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21. (a) What are the functions of the following eye muscles

i. Lateral rectors muscles (1mark)

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ii. Superior and Inferior muscles (1mark)

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22. Name the **three** bones that forms the ear ossicles (3marks)

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23.(a) An elephant weighing 2000Kg requires 3000kJ per gram body weight while a rat weighing 100g requires 5000kJ per gram body weight. Explain (2marks)

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(b).Name a plant excretory product used for the following functions.

(i) Meat tenderizer (1 mark)

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(ii).Treatment of leather and manufacture of ink (1 mark)

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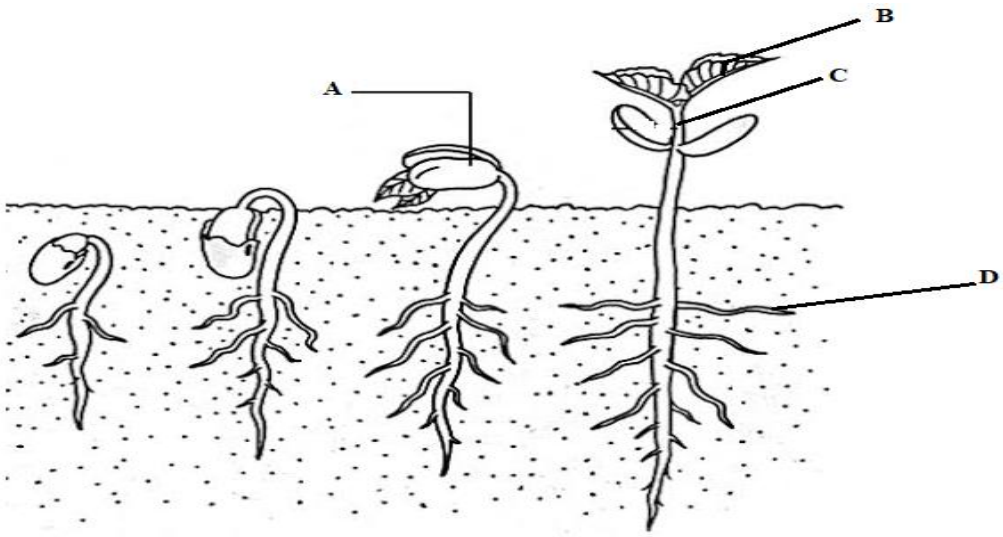
24.The images shown below were taken from a given experiment whose objective was to determine germination using given seed that was subjected into various suitable conditions. Use the images given below to answer the questions that follows:



(a).Name the parts labelled **A** and **C** (2marks)

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(b).What is the function of the part labelled **D.** (1mark)

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(c).Explain how the part labelled **A** is carried above the soil level (2 marks)

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25.Insulin hormone increases during times of stress. Explain. (2 marks)

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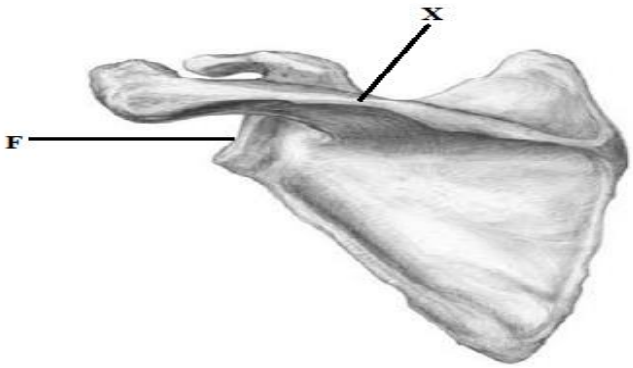
26.The diagram below represents a bone of a mammal.



(a) Identify the bone (1mark)

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(b) Name the part labelled **X** (1mark)

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(c) Name the bone that articulate with the bone at part marked **F**. (1mark)

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