

KAPSABET HIGH SCHOOL



TRIAL 1 EXAMINATION 2025



BIOLOGY

231/1

PAPER 1

TIME:2 HOURS

NAME.....

SIGN.....

INDEX NO..... ADM NO.....

INSTRUCTIONS TO CANDIDATES:

- 1) Write your **name** and **index number** and **school** in the spaces provided above.
- 2) Sign and write **date** of the examination in the spaces provided above
- 3) Answer **all** the questions in section **A** and **B**

FOREXAMINER'S USE ONLY:

QUESTIONS	MAXIMUM SCORE	CANDIDATE'S SCORE
1-29	80	

SECTION A

1. A young scientist observed a bird laying her eggs in a nest and later the eggs hatched into chicks.

Name three characteristics shown by the chicks that show a chick is a living thing but an egg is not

(3mks)

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2. Which organelles should be abundant in;

i) Skeletal muscle

(1mk)

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ii) Palisade tissue

(1mk)

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3. A form 1 student was preparing temporary slides in the laboratory, in the course of preparation he carried out the following processes;

i) Sectioning

ii) Fixation

iii) Staining

State the importance of the above processes

(3mks)

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4. Why are lysosomes many in phagocytic cells

(2mks)

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5. Differentiate between guttation and transpiration (2mks)

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6. a) Give a reason why xylem vessel should be dead (1mk)

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b) What is the role of lignin in the wall of the xylem vessel (1mk)

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7. Name the disease of the blood characterized by,

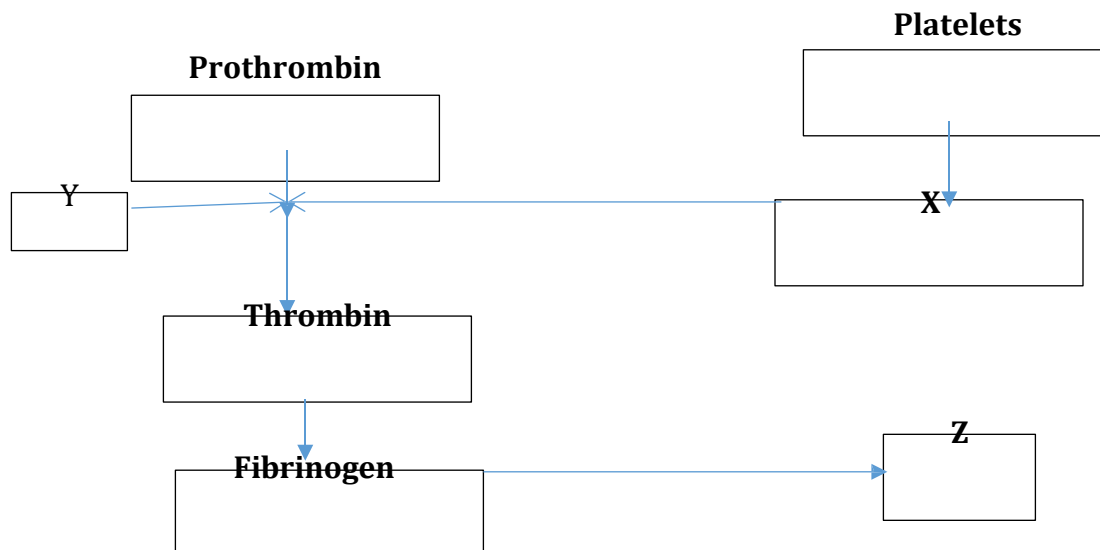
a) Abnormally large number of white blood cells (1mk)

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b) Crescent –shaped haemoglobin (1mk)

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8. The chart below is a summary of blood clotting mechanism in a man.

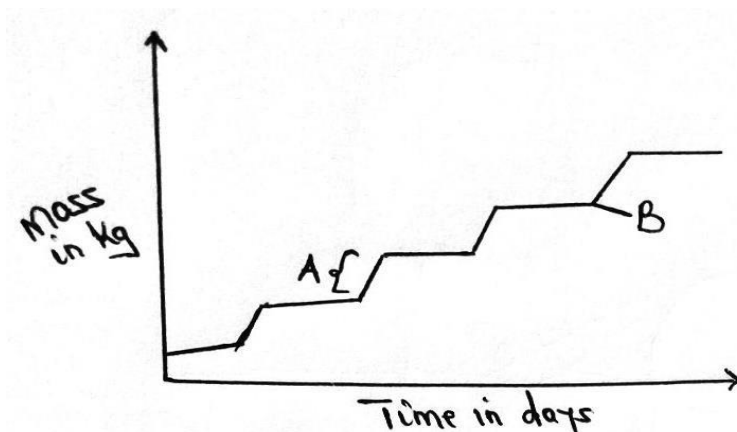


Name;

i) The metal ion represented by Y (1mk)
.....

ii) The end product of the mechanism represented by Z (1mk)
.....

9. The graph below represents the growth of animals in a certain phylum. Study it and answer the questions that follow.



a) Name the type of growth pattern shown on the graph (1mk)
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b) Identify the process represented by letter B (1mk)
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c) Name the hormone responsible for the process in (b) above (1mk)
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10. Explain why a mule is infertile (1mk)
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.....

11. Phylum Arthropoda is the most successful of invertebrates. Explain two characteristics that make them most successful (2mks)
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.....

12. Name phylum whose members possess a notochord

(1mk)

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13. a) Define evolution and homologous structures

(2mks)

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b) State three limitations of using fossil records as an evidence that supports organic evolution

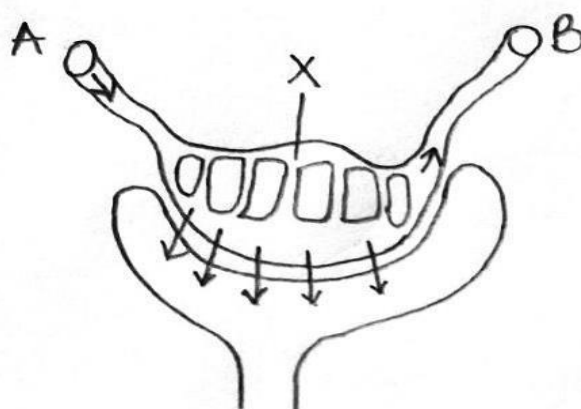
(3mks)

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14. The following is part of a kidney nephron



a) i) Name the process represented by the arrows

(1mk)

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ii) Name the conditions necessary for the process named in (a) (i) above to take place

(1mk)

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b) Identify with a reason vessel A

(1mk)

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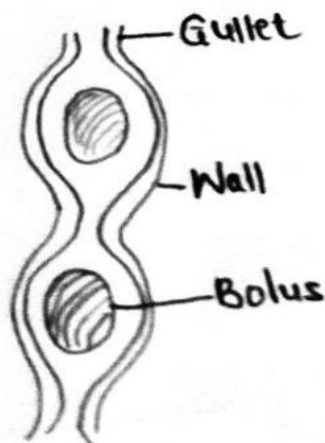
c) Name any two blood components that are present in vessel (A) but are absent in vessel B

(2mks)

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15. The diagrammatic representation below illustrates one of the process that occurs in mammals during feeding. Carefully study it and answer the following questions



i) Identify the process (1mk)

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ii) State two structural adaptations of gullet to its functions (2mks)

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iii) Name one enzyme already present in the food bolus within the gullet in man (1mk)

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b) State two functions of mucus secreted by the intestines (2mks)

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16. Explain each of the following;

a) Variegated plants accumulates less food than non-variegated plants under similar conditions.

(2mks)

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b) Most leaves are thin with broad leaf surface (2mks)

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17.State the economic importance of the following plant excretory products (3mks)

a) Papain

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b) Caffein

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c) Colchicine

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18.a) State two processes which occurs during anaphase of mitosis (2mks)

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b)What is the significance of first meiotic division (1mk)

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c)State two ways in which HIV/AIDS is transmitted from mother to child (2mks)

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19.State the function of the following during pregnancy (3mks)

a) Amnion

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b) Amniotic fluid

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c) Umbilical cord

.....

20. Name the process by which;

i) Producers convert sunlight energy into chemical energy **(1mk)**

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ii) Chemical energy is converted into heat energy by consumers **(1mk)**

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21. Students from Mpesa foundation academy wanted to investigate the population of crabs in their school pond. They caught 50 crabs, marked them with white paint on the cephalothorax and then released them back into the pond. After three days, they came back and caught 50 crabs of which 3 had the white mark.

a) Using the data above, calculate the population of crabs in the pond **(2mks)**

b) Suggest three assumptions the students made during this study **(3mks)**

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22. State any two methods that can be used at home to properly manage domestic effluents **(2mks)**

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23.a) Explain how the following factors increase the rate of diffusion **(3mks)**

i) Temperature

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ii) Diffusion gradient

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iii) Size of diffusing particles

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b) Diffusion is a passive process while active transport is an active process. Explain (2mks)

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24. a) Waterlogging in terrestrial plants inhibit uptake of certain mineral ions from the soil by the plants.

Explain (3mks)

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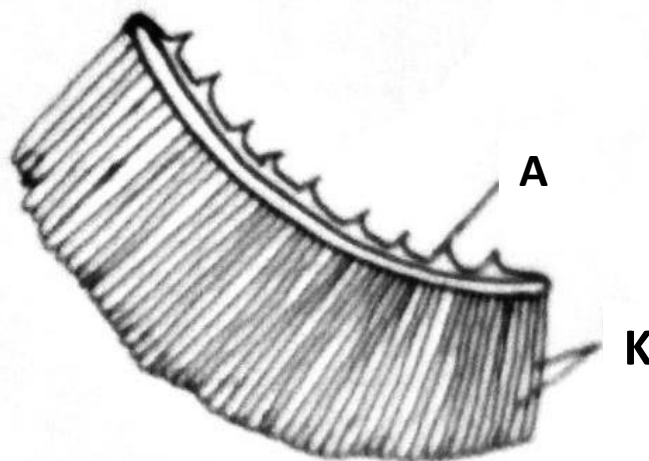
b) State two illustrations of Osmosis in plants (2mks)

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25. The diagram below represents a gill of a fish



i) State two ways in which a large surface area is created in structures labelled K (2mks)

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ii) Name the type of flow system that occurs between water and blood in the capillaries present on structures K (1mk)

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iii) Name an organ in human beings that also display the flow system named in (ii) above (1mk)

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26. Identical twins were separated after birth and were then raised in different environments. One in Kenya and the other in U.S.A. They rejoined after 18 years and they looked slightly different.

i) Name the type of variation the twins exhibited (1mk)

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ii) Give two observable differences likely to be noted between the twins (2mks)

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