

FORM FOUR CLUSTER KCSE MODEL 6
BIOLOGY PAPER 1 QUESTIONS

1. Explain why variegated plants accumulate less food than non-variegated plants under same conditions

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2. The table below shows the distribution of stomata on two leaves P and Q. The surface area of the two leaves has also been tabulated. Study it and answer questions that follow.

No of stomata	P	Q
Upper surface	24	10
Lower surface	0	15
Surface area	25cm ²	16cm ²

a) State the habitat of:

i) Leaf P (1mark)

ii) Leaf Q (1mark)

b) Give two reasons for your answers in (a) above (2marks)

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3. State three characteristics of living organisms that are specific to plants

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4. Explain how an increase in temperature affects the rate of active transport.

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5.a) What is single circulatory system? (1mark)

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b) Name an organism which has single circulatory system. (1mark)

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c) Name the opening to the chamber of the heart of an insect. (1mark)

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6. State two functions of carbohydrates in the human body

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7. State two ways in which the human intestinal villus is adapted to its function

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8. Other than sugars, name two compounds that are translocated in phloem.

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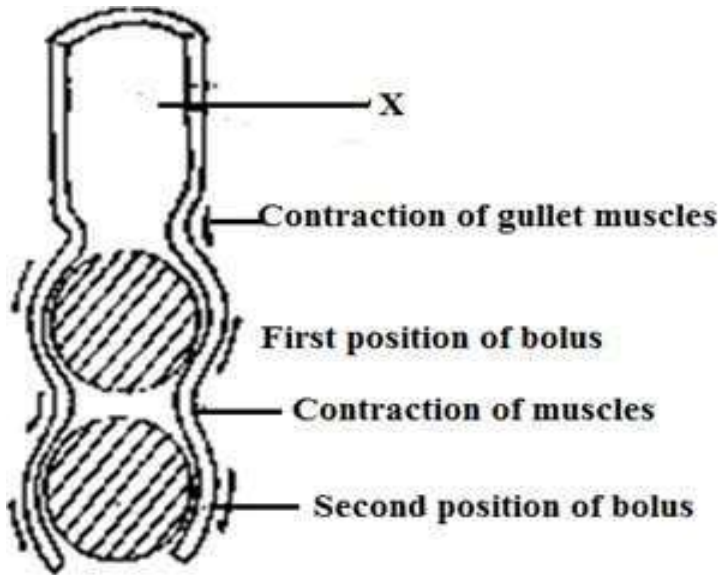
9. Explain the role of calcium ions in blood clotting

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10. State two roles of green plants in a fish aquarium other than providing food for the fish

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11. Below is a diagram showing a certain process during digestion.



a) Identify the part labeled X (1mark)

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b) Name the process being illustrated in (a) above (1mark)

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c) Explain how the process in (b) above takes place (2marks)

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12. For each of the following types of cells, state one adaptation that makes it different from a typical animal cell.

a) cell lining the trachea (1mark)

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b) Red blood cell (1mark)

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13. How are lenticels adapted for gaseous exchange?

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14. What is resolving power as used in microscopy?

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15.State the significance of respiratory Quotient to living organisms

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16.Which portions of the human nephron are only found in the cortex?

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17. State one economic importance of each of the following plant excretory products

(a) tannin

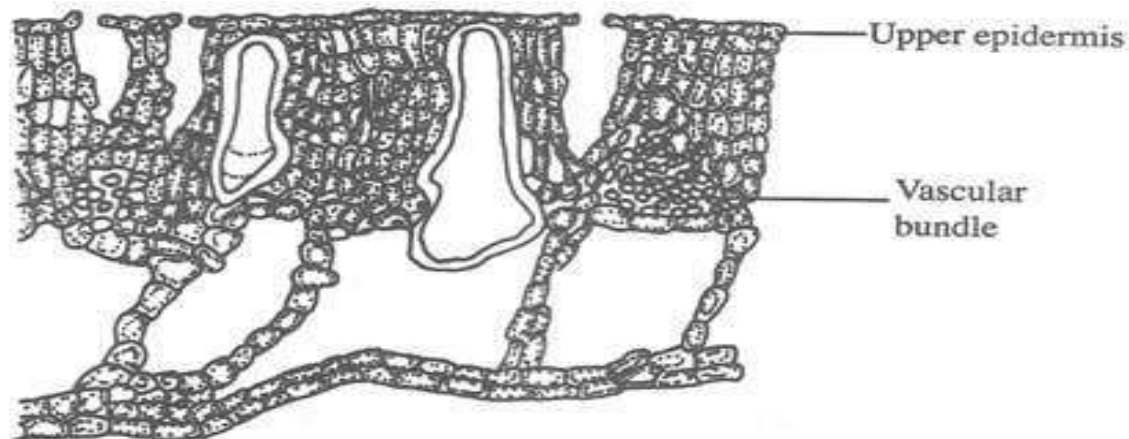
b) Quinine.

c) Caffeine

18. Distinguish between Guttation and Exudation

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19.The diagram below shows a transverse section of a leaf



a) Name the habitat of the plant from which the leaf was obtained. (1mark)

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b) Give two reasons for your answer in (a) above (2marks)

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20.Name the causative agent of the following human diseases.

a. Pneumonia (1mark)

b) Cholera (1mark)

c) Gonorrhoea (1mark)

21.State the difference between the composition of maternal blood entering the placenta and maternal blood leaving the placenta (2marks)

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22.Explain how a seed is formed after an ovule is fertilized

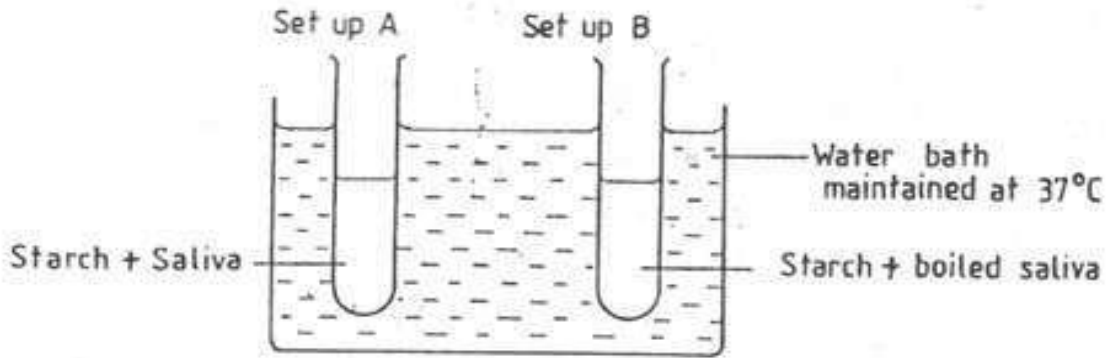
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23. Give two reasons why a woman excretes less urea when she becomes pregnant?
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24. What is the significance of meiosis?
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25. What is the role of the testes in the mammalian reproductive system?
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26. In an experiment to investigate an aspect of digestion, two test tubes A and B were set up as shown in the diagram below.



The tubes were left in the bath for 30 minutes. The content of each test tube was tested for starch using iodine solution.

a) What was the aim of the experiment? (1 mark)
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b) What would be the expected results in test tube A and B? (2 marks)
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27. State three factors that contribute to the deceleration phase in the population curve of an organism
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28. What is meant by the term sex-linkage? (1 mark)
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b) Name two sex-linked traits in humans (2 marks)
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29. State three pieces of evidence that support the theory of evolution

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30. State two ideas proposed by Lamarck in his theory of evolution

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31. Name the type of response exhibited by

a) Leaves of mimosa pudica when they fold after being touched (1mark)

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b) Euglena when it swims towards the source of light (1mark)

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c) When sperms swim towards the ovum (1mark)

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32. State one structural and one functional difference between motor and sensory neurons

Structural difference

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Functional difference.....

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