

KAPSABET HIGH SCHOOL

(Kenya Certificate of Secondary Education)

231/1

Paper 1



INTERNAL MOCK EXAM BIOLOGY

Dec. 2020– 2 Hours

Name..... Index No.

Adm No..... Date:.....

Signature Stream :.....

Instructions to candidates

- Write your Name, Index, Admission number and stream in the spaces provided above.
 - Sign and write the examination date on the spaces provided above.
 - Answer **all** questions in the spaces provided in the question paper.
 - All workings must be clearly shown where necessary.
 - Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
 - Candidates must answer the questions in English.
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For Examiners use only

QUESTIONS	MAXIMUM SCORE	CANDIDATE SCORE
1-27	80	

1. Explain why malaria cannot be transmitted through blood transfusion. (2 marks)

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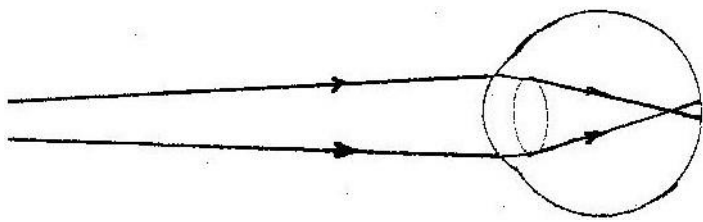
2. A boy held a locust upside down and attempted to drown it in water by immersing the head in water. Was he successful? (1 mark)

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Explain. (2 marks)

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3. The diagram below shows the position of an image formed in a defective eye.



(a) Name the defect: (1 mark)

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(b) Explain how the defect named in (a) above can be corrected. (2 marks)

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(b) Using a sketch, draw to demonstrate how the above condition is corrected. (1 mark)

4. State **two** ways in which scales are adapted to their function. (2 marks)

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5. (a) What is the name given to two protrusions on the posterior end of the skull, that articulate to the atlas. (1 mark)

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(b) Give the name of the joint formed in (i) above, and state its functions. (1 mark)

Joint:

Function:

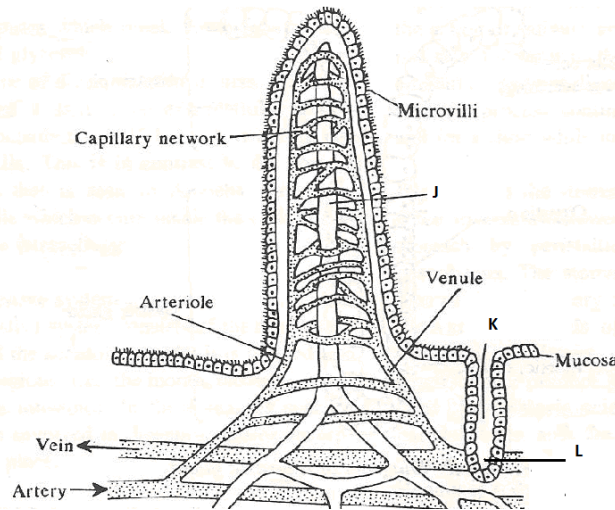
6. (i) What is emulsification? (1 mark)

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(ii) Name **two** emulsifying agents found in the human bile. (2 marks)

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7. The diagram below represents part of alimentary canal. Study it and use it to answer the questions that follow.



(i) Identify the diagram shown above. (1 mark)

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(ii) Name the parts labelled **J** and **L**.

J..... (1 mark)

L (1 mark)

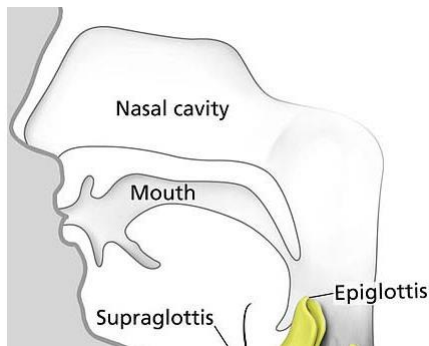
(iii) What are the components of the substance produced by part labeled **K**. (1 mark)

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8. Describe the events that constitutes the crossing over . (3 marks)

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9. The diagram below shows the part of gaseous exchange structures in human.



State **three** roles of the nasal cavity in human. (3 marks)

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10. (a) Distinguish between complete dominance and incomplete dominance. (2 marks)

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(b) Give an example of a characteristic trait that is inherited under incomplete dominance. (1 mark)

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12. (a) In 1953, **S.L Miller** carried out an experiment to explain which theory in evolution? (1 mark)

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(b) What is meant by vestigial structures? (1 mark)

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(c) Give an example of a vestigial structure in human. (1 mark)

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13. (a) What do you understand by the term exoskeleton. (1 mark)

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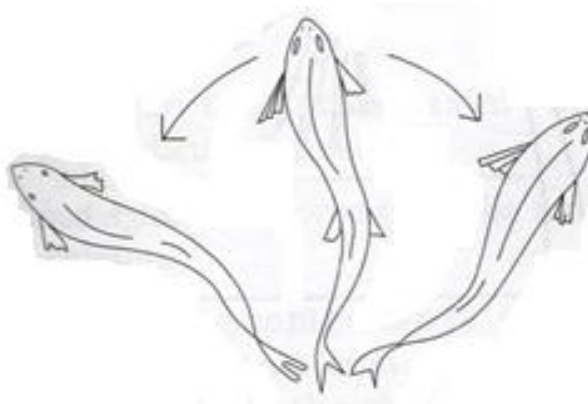
(b) State the name of **two** tissues that constitutes the endoskeleton. (2 marks)

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(c) State the name of the phylum where the exoskeleton is found. (1 mark)

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14. (a) Observe the diagram below to answer the questions that follows.



(a) State the name of the condition shown in the diagram above. (1 mark)

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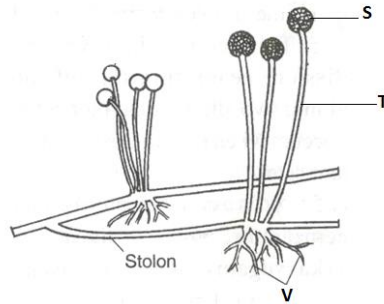
(b) Name the type of fins that prevents the condition named in **14 (a)** above. (2 marks)

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15. The diagram below represents a sketch of certain organism found in a store room of food stuff in most homes.



(a) State the branch of biology that deals with the study of the above organisms. (1 mark)

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(b) Name the type of cell division that takes place at part labelled **S**. (1 mark)

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(c) Identify part labeled **V** and state their function. (1 mark)

V (1 mark)

Functions (1 mark)

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16. Distinguish between obligate anaerobes and facultative anaerobes. (2 marks)

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17. Giving examples, state **two** ways in which biological nitrogen fixation is carried out. (4 mark)

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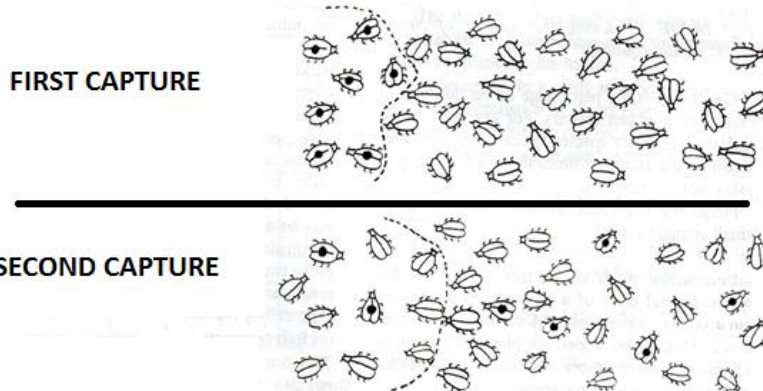
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 18. (a) State **one** sample counting method which is not suitable in a densely forested habitat. (1 mark)

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 (b) The information below shows how a student took information in order to estimate the population of beetles in a field. Estimate the population. (2 marks)



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19. State **three** aspects of growth that can be estimated in living organisms. (3 marks)

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20. Giving examples, explain what you understand by cranial nerves. (3 marks)

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21. Give **two** external features of members of class Aves. (2 marks)

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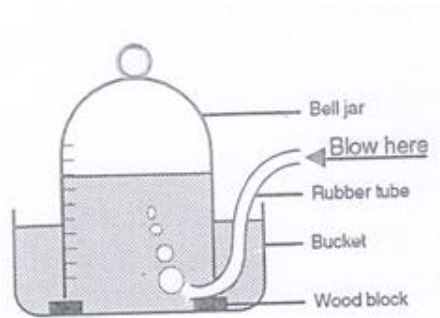
22. (a) What do you understand by the term Lichen with reference to ecology? (2 marks)

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(b) Name the other equivalent association that involved roots of higher plants and Fungi. (1 mark)

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23. A student filled the bell jar shown below with water and inverted it in a bucket also full of water. Through the rubber tube attached, he took a very deep breath and blew as much air as possible through the tubing.



(a) It is possible to have deepest possible exhalation. What name do we give to such volume of air. (1 mark)

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(b) How much air leaves the lungs each time you breath out during normal quiet breathing? (1 mark)

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(c) State the changes in the external intercostal muscles during above activity. (1 mark)

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(d) Name the part of the brain that controls breathing movements. (1 mark)

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24. State **three** ways in which root hairs are adapted to their function. (3 marks)

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25. (a) Mammals have a constant body temperature. What name is given to this condition? (1 mark)

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(c) List **three** behavioral adaptations in animals in an attempt to remain warm. (3 marks)

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26. State **three** structural differences between phloem and xylem tissues. (3marks)

Phloem	Xylem

27. (a) Define the term osmosis. (1 mark)

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(b) Describe the role of diffusion in plants reproduction. (2 marks)

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