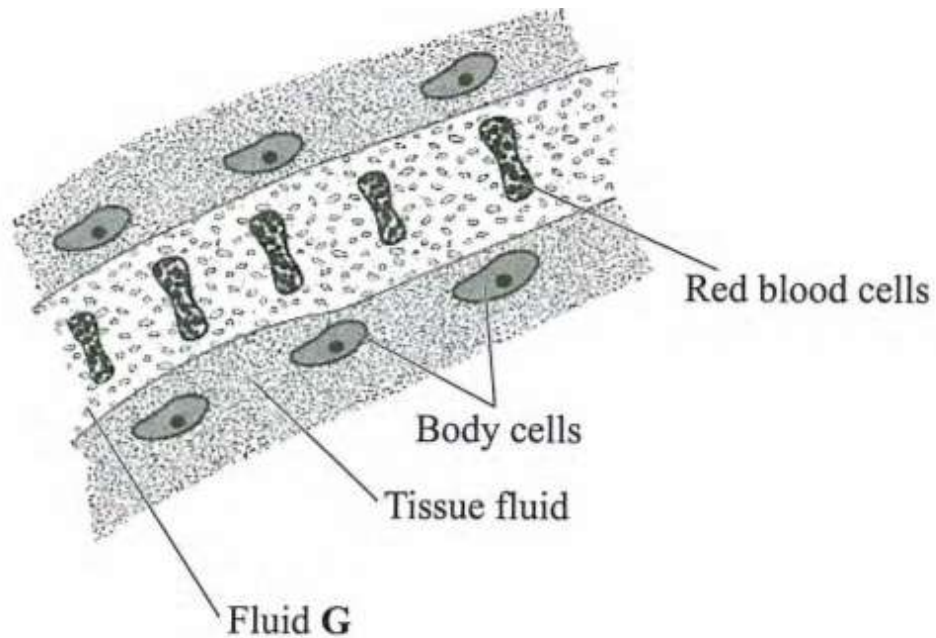


FORM FOUR KCSE 2018
BIOLOGY PAPER 1 QUESTIONS

Answer all the questions in the spaces provided.

1. (a) Name the cell organelle found in abundance in the white blood cells.(1 mark)
(b) Give a reason for your answer in (a) above.(1 mark)
2. State two observable features that place a millipede into its Class. (2 marks)
3. Which sets of teeth would be used in chewing sugarcane for maximum extraction of sap? (2 marks)
4. A group of two students placed a fresh leaf in warm water. They observed that air bubbles formed on the surface of the leaf.
(a) What biological process were they investigating?(1 mark)
(b) Name the structures from which the air bubbles were coming from. (1 mark)
(c) Explain the distribution of the structures named in (b) above on the leaf surfaces of a land plant. (2 marks)
5. State why it is important for plants to lose water to the atmosphere.(3 mark)
6. The diagram below illustrates tissue fluid and cells surrounding a capillary.



(i) Name fluid G.(1 mark)

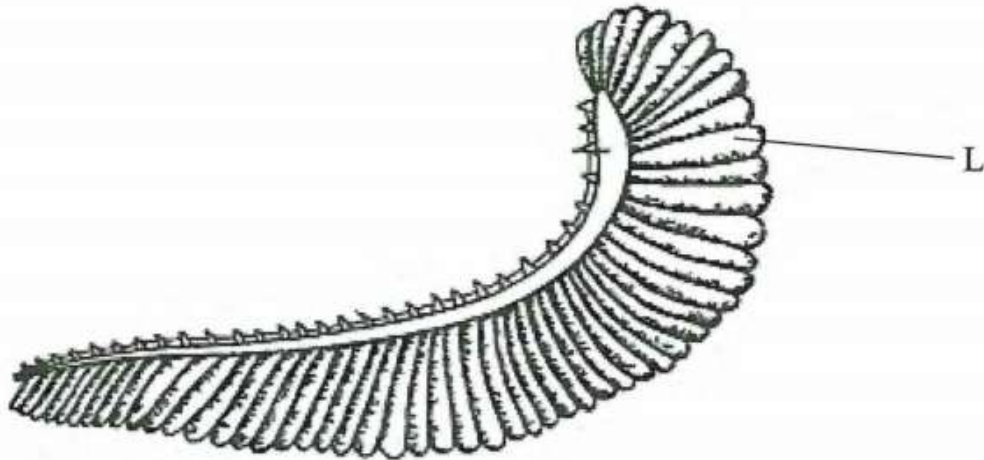
(ii) Give two ways by which fluid G is different from tissue fluid.(2 mark)

7. (a) Define respiration.(1 mark)

(b) State three activities in the human digestive system that depend on respiration.(3 mark)

8. State three ways in which blood capillaries are structurally adapted to their functions.(3 mark)

9. The diagram below represents an organ in a bony fish.



(a) Name the organ.(1 mark)

(b) Describe how air in water reach the capillaries inside structure L.(3 mark)

10. Name two products of respiration in plants. (2 marks)(2 mark)

11. (a) State one homeostatic role of the human skin. (1 mark)

(b) Name three structures of the skin essential for its homeostatic function. (3 marks)

12. Explain why the nephron is long and convoluted. (3 marks)

13. State two limitations of using a quadrat to estimate the population of organisms. (2 marks)

14. The diagram below illustrates a germinating seedling.



(a) Name the type of germination illustrated in the diagram. (1 mark)

(b) Describe how the type of germination named in (a) above is brought about. (3 marks)

15. Explain why a bony fish dies shortly after being removed from water.(4 mark)

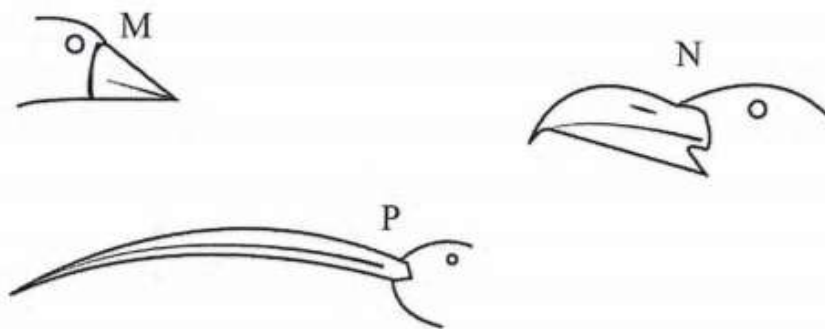
16. Name the bones that articulate to form a ball and socket joint at the hip.(2 marks)

17. Explain the role of carbonic anhydrase in red blood cells. (4 marks) 18. A tall, light skinned lady with pimples on her face has long hair and limps.

(a) List two features which the lady has that are due to inheritance. (2 marks)

(b) Explain why most recessive genes are expressed phenotypically in male offspring of humans. (3 marks)

19. The diagrams below illustrate some forms of beaks in birds.



(a) Which diagram represents the beak from which the others are likely to have evolved? (1 mark)

(b) Explain your answer in (a) above. (3 marks)

20. (a) Define the term analogous structures.(1 marks)

(b) Give two illustrations of analogous structures in mammals.(2 marks)

21. State two ways in which plants with weak stems obtain mechanical support.(2 marks)

22. What does the term evolution mean?(1 marks)

23. State two characteristics of living things illustrated in the photograph below.(2 marks)



24. Explain why a camel has a longer nephron than a whale. (1 mark)