

Name.....AdmNo.....Stream :.....



**ALLIANCE HIGH SCHOOL**

**TRIALS**

**BIOLOGY: 231/1**

**AUG. 2022**

**TIME: 2 HOURS**

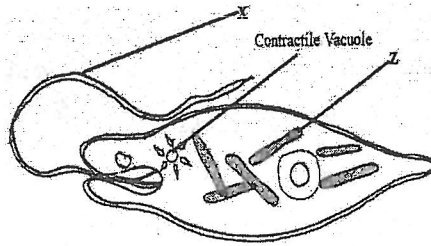
**Instructions to candidates**

- a) Write your Name, Index, Admission number and stream in the spaces provided above.
- b) Sign and write the examination date on the spaces provided above.
- c) Answer **all** questions in the spaces provided in the question paper.
- d) Additional pages must **NOT** be inserted.
- e) **Candidates should check the question paper to ascertain that all 8 pages are printed as indicated and that no questions are missing.**
- f) **Candidates must answer the questions in English.**

**FOR EXAMINER'S USE ONLY**

Question	Maximum Score	Candidate's Score
1-22	80	

1. The diagram below represents an organism. Study it and answer the questions that follow.



a. Identify the kingdom to which the organism belongs (1 mark)

.....

b. Name the structures labelled X (1 mark)

.....

c. Identify the type of nutrition carried out by the organism and give a reason (2marks)

**Type of Nutrition**..... **Reason**.....

2. a) State the phylum where all members have open circulatory system. (1mark)

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b) State advantages of closed circulatory system over open circulatory system. (2marks)

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

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4. A boy held a locust upside down and attempted to drown it, by immersing the head in water.

Explain the observation made (2 marks)

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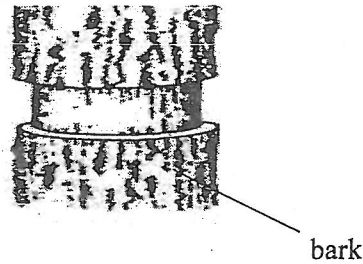
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5. Explain why malaria cannot be transmitted through blood transfusion. (2 marks)

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6. The diagram below shows an experiment that was carried out to investigate a certain biological process. Study it and answer the questions below.

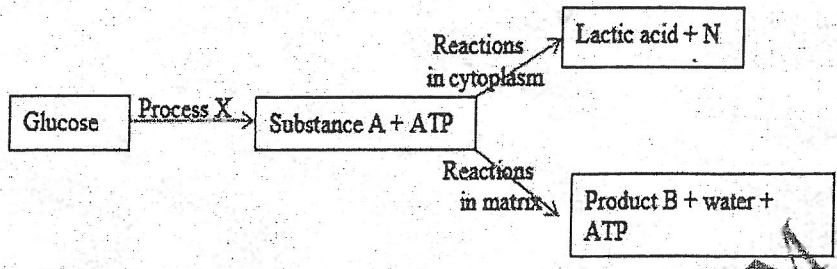


- a) What is the aim of the experiment? (1mark)  
.....
- b) Name the tissue removed in the above experiment? (1mark)  
.....
- c) State how the above-named tissue is structurally adapted to its function? (2marks)  
.....  
.....  
.....
- d) Draw a diagram to illustrate the observation made after 3 weeks? (1 mark)

- 7. (a) Name the protrusions found on the posterior end of the skull, that articulate to the atlas. (1 mark)  
.....
- (b) Give the name of the joint formed in (a) above, and state its functions. (2 marks)  
Joint: .....
- Function:.....

- 8. Explain natural selection using principles considered by Charles Darwin. (4marks)  
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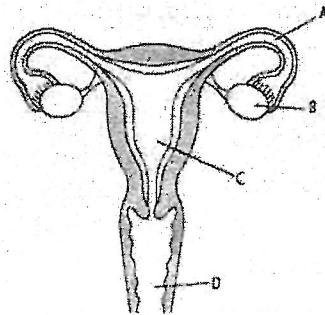
9. The chart below shows a summarized process that occurs in animals.



- a) Name the following: (3 marks)
- (i) Process X .....
  - (ii) Substance A .....
  - (iii) Product B .....
- (b) State the condition necessary for the reactions in matrix to occur. (1 mark)

.....

10. Study the diagram below and answer the questions that follows



a. Identify the parts labelled B, C and D. (3marks)

B.....

C.....

D.....

b. State the adaptation of part A to function. (2marks)

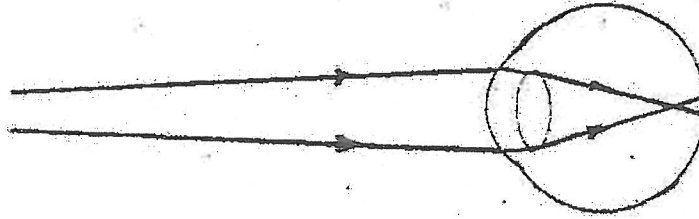
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11. The diagram below shows the position of an image formed in a defective eye.



(a) Name the defect (1 mark)

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(b) State how the defect named in (a) above can be corrected. (1 mark)

.....

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(c) Draw a sketch, to demonstrate how the above condition is corrected. (2 marks)

12. Three stems of *tradescantia* of equal length were placed in three solutions of different concentrations. The set ups were left to stand for 30 minutes. The results were recorded in the table below.

Solution	Initial length of stem (mm)	Final length of stem (mm)
A	37	37
B	37	36.7
C	37	38

a) Identify the nature of solution A. (1mark)

.....

b) Account for the observation made in solution B. (2marks)

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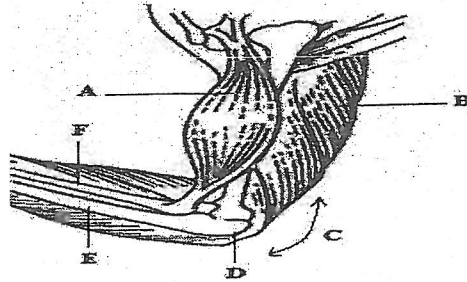
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c) Apart from the length name any other observation made on the stem in solution C.

.....(1mark)

13. Study the diagram below and answer the questions which follow.



a) Identify the muscle represented by letters A and B (1 mark)

.....

(b) Name the joint C (1 mark)

.....

(c) Name parts label D, E and F (3marks)

D.....

E.....

F.....

14. State the effects of over secretion of thyroxine hormone . (3 marks)

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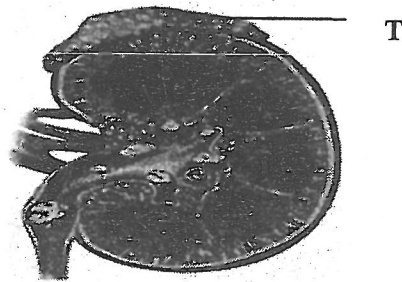
15. Differentiate between simple reflex and conditioned reflex action. (3marks)

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16. Describe the mechanism of closing the stomata on the basis of photosynthetic theory (4 marks)

.....  
 .....  
 .....

17. An investigation was carried out on a mammalian kidney.



a) Name the gland labeled T. (1mark)

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b) What is the function of the structure named in (i) above in the kidney. (1mark)

.....

c) Identify the disease shown in the kidney above. (1mark)

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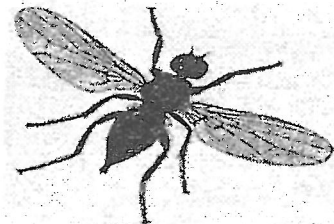
d) Giving examples, state ways in which biological nitrogen fixation is carried out. (2marks)

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18. The diagram below represents a certain organism collected by a student at the sea shore



a. Name the class to which the organism belongs. (1mark)

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b. State the observable features that enables the above organism adapt to its habitat. (2marks)

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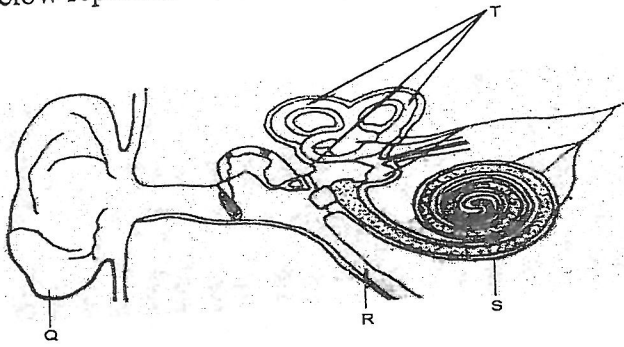
19. What is the importance of seed dispersal? (3marks)

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20. The diagram below represents a section through the mammalian ear.



a) Name the structures labelled R and T. (2 marks)

R.....

T.....

b) State how the structures S is adapted to its functions. (2 marks)

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.....

c. state the functions of structures Q and T (2marks)

Q.....

T.....

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

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22. (a) Define the Incomplete metamorphosis. (1mark)

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(b) State one function of each of the following hormones (2marks)

(i) Juvenile hormone.  
.....

(ii) Ecdysone.  
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