



# BRILLIANT PUBLISHERS

*The Sign of Knowledge*

NAME: ..... INDEX NO: .....

SCHOOL: ..... DATE : .....

STUDENT'S SIGNATURE:.....

**231/1**

**BIOLOGY**

**PAPER 1 2020**

**2 HOURS**

**FORM THREE**

**BIOLOGY PAPER 1**

**2 HOURS**

**Instructions**

1. Write your name and admission number and school in the spaces provided above.
2. Answer ALL questions in the spaces provided after each question.

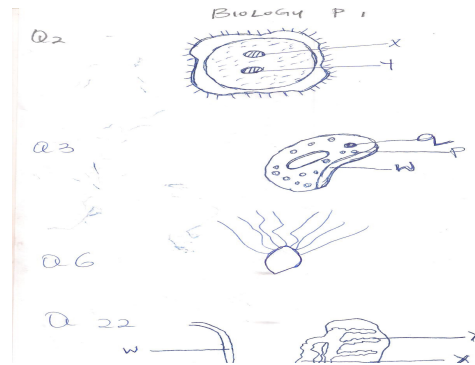
Questions	Maximum Score	Student's Score
1-29	80 Marks	

1. State **one** function of the cell sap.

(1 Mark)

.....

2. The diagram below shows a mature pollen grain.



a) Name the structures labeled X and Y.

(2 Marks)

X .....

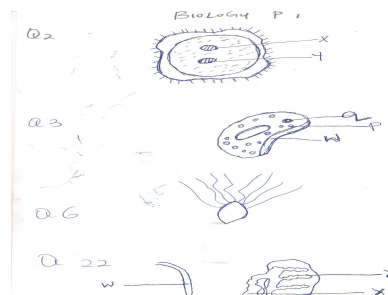
Y .....

b) Give **two** features that hinder self-pollination and self fertilization.

(2 Marks)

.....  
 .....

3. The diagram below represents a cell.



a) Name the parts labeled Q and P.

(2 Marks)

Q .....

P .....

b) Of what importance to the cell is the thickened part labeled W.

(1 Mark)

.....  
 .....

4. Name the blood vessel that transports blood from: -

i) Small intestines to the liver. (1 Mark)

.....

ii) Lungs to the heart. (1 Mark)

.....

5. Some students wanted to collect the following animals for study in the laboratory. State the suitable apparatus they should use. (2 Marks)

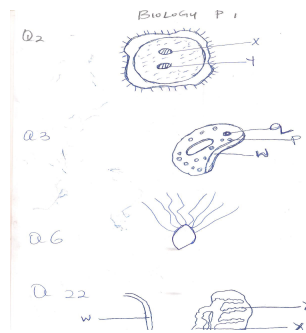
i) Flying insects

.....

ii) Small animals from tree barks

.....

6. The diagram below represents a mature fruit of a certain plant.



a) State the agent of dispersal of the fruit. (1 Mark)

.....

b) Give a reason for your answer in (a) above. (1 Mark)

.....

7. Give **two** main functions of water in plants. (2 Marks)

.....

.....

8. a) What is meant by the term taxonomy? (1 Mark)

.....

b) When are **two** organisms considered to belong to the same species? (2 Marks)

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.....

9. Name **three** processes by which substances enter and leave the cell across the cell membrane. (3 Marks)

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

10. State the causative agents of the following diseases. (2 Marks)

a) Candidiasis

.....

b) Typhoid

.....

11. a) Photosynthesis takes place in two stages. Name the part of the chloroplast where:

i) Light stage occurs

.....

ii) Dark stage occurs (2 Marks)

.....

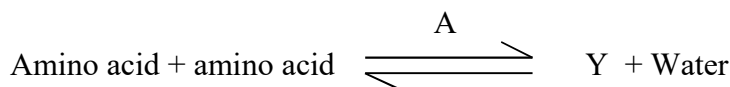
b) Name the products of the light stage. (3 Marks)

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

12. State **three** processes by which flowering plants eliminate their waste products. (3 Marks)

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

13. The equation below represents a process that takes place in the body:



B

a) Name product Y (1 Mark)

.....

b) Give the names of processes A and B. (2 Marks)

A .....

B .....

14. State **three** characteristics of meristematic cells. (3 Marks)

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

15. Define the following terms:

a) Community (1 Mark)

.....

b) Biomass (1 Mark)

.....

16. Name **two** environmental factors that affect the rate of transpiration. (2 Marks)

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.....

17. Explain why the left ventricle is more muscular than the right ventricle. (2 Marks)

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18. State the cause of the following conditions in humans:

a) Diabetes mellitus (1 Mark)

.....

b) Diabetes insipidus (1 Mark)

.....  
19. State the function of the following cell organelles.

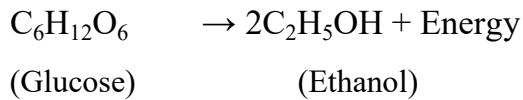
i) Contractile vacuole. (1 Mark)

.....  
ii) Golgi body (1 Mark)

.....  
20. a) State **two** roles of diffusion in plants. (2 Marks)

.....  
b) Explain what happens to animal cells when immersed in distilled water. (2 Marks)

.....  
21. The equation below represents a biochemical reaction.

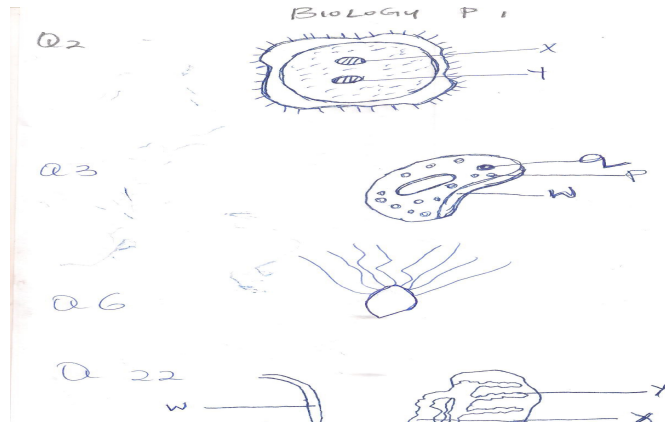


a) State the reaction represented by the equation. (1 Mark)

.....  
b) Name an organism in which the above process is likely to occur. (1 Mark)

.....  
c) Name the site of the above reaction in a cell. (1 Mark)

22. The diagram below represents part of the male reproductive system. Study it and answer the questions that follow.



a) Name the part labeled W and Y. (2 Marks)

.....  
 .....

b) State the functions of parts X and Y

X - .....  
 Y - .....

23. An animal has the following dental formula.

$$\begin{matrix} 0 & 0 & 3 \\ i & c & pm \\ \frac{1}{2} & \frac{1}{2} & \frac{2}{2} \end{matrix}$$

a) Suggest the type of diet for this animal. (1 Mark)

.....

b) Give a reason for your answer in (a) above. (1 Mark)

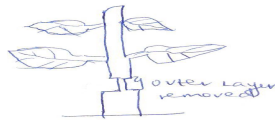
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c) How many teeth does the animal have in total? (1 Mark)

.....

24. The figure below shows an experiment that was carried out by form two students.

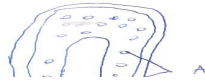
Q 24



Q 27



Q 29



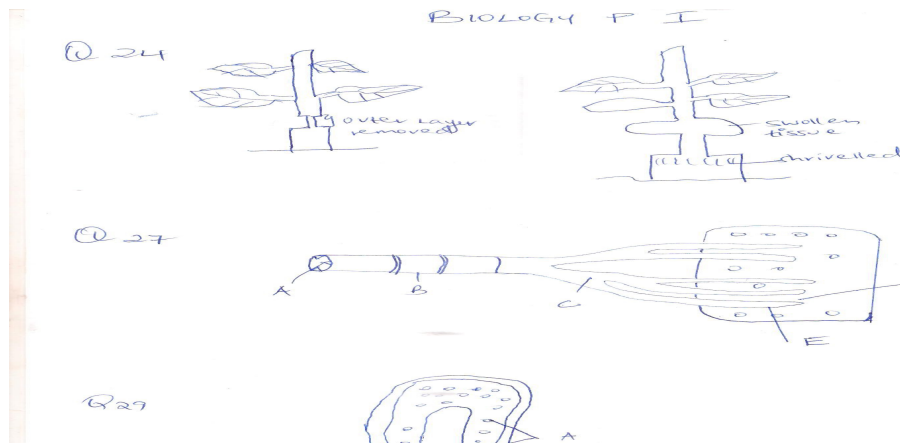
- a) Name the process that was being investigated. (1 Mark)  
 .....
- b) Account for the swelling in the above diagram. (2 Marks)  
 .....

25. A group of students observed 8 cells across the diameter of field of view of a light microscope. If the eye piece lens magnification was X5 and objective lens magnification was X40, work out the actual diameter of each cell given that the diameter of field of view is 3mm. give your answer in micrometres. (3 Marks)

26. Give **three** differences between aerobic and anaerobic respiration. (3 Marks)  
 .....  
 .....  
 .....  
 .....

27. The diagram below represents the gaseous exchange site of terrestrial insects. Use it to answer the questions that follow.





a) Name the parts labeled A, C, D and E. (2 Marks)

- A - .....
- C - .....
- D - .....
- E - .....

b) State the significance of part labeled B. (1 Mark)

.....

28. A dog weighing 15Kg requires 300kJ while a mouse weighing 50g requires 2010 kJ per day. Explain. (2 Marks)

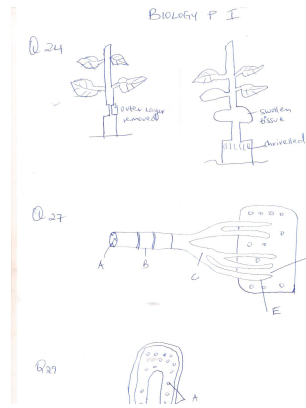
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29. The diagram below shows a palisade cell.



a) Name structures labeled A and B. (2 Marks)

A - .....

B - .....

b) Account for the distribution of the structure labeled A in the cell above. (2 Marks)

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