

231/1  
BIOLOGY  
Paper 1  
2 Hours

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**PRECIOUS BLOOD SCHOOL**  
**MOCK EXAM**

Answer ALL the questions in the spaces provided.

**FOR EXAMINER'S USE ONLY.**

Question	Maximum score	Candidate's Score
1-29	80	

Answer ALL the questions in the spaces provided.

1. Identify the part of light microscope which serve each of the functions described below. (2 marks)

(i) Making rough focus

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(ii) Reflecting light from the source

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2. State **three** adaptations of halophytes to their habitat. (3 marks)

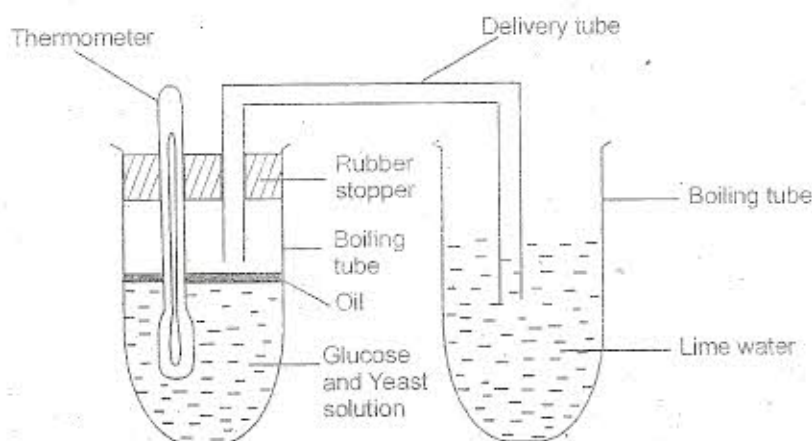
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3. Some students set up the following experiment to investigate a certain process. Glucose solution was boiled and then cooled before addition of yeast suspension.



- a) Which process was being investigated? (1 mark)

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- b) Why was the glucose solution first boiled and then cooled? (2 marks)

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c) What was the purpose of including the oil?

(1 mark)

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4. State **one** structural modification of stomata found in xerophytes.

(1 mark)

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5. State **two** adaptations of a guard cell to its function.

(2 marks)

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6. Name any **one** kingdom whose members are useful in the cycling of matter in an ecosystem.

(1 mark)

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7. a) Give a reason why some protease enzymes are secreted in an inactive form.

(1 mark)

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b) Why are proteins described as being amphoteric?

(1 mark)

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c) What is the role of iodine in the human body?

(1 mark)

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8. Explain why not all the energy from one trophic level is available to the next level. (2marks)

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9. Name **two** mechanisms that prevent self pollination in flowers that have both male and female parts.

(2 marks)

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10. a) Where in the human body is the relay neuron located?

(1 mark)

b) State the function of acetylcholine.

(1 mark)

11. What is meant by the following terms:-

(2 marks)

(i) Genetic counselling

(ii) Artificial selection

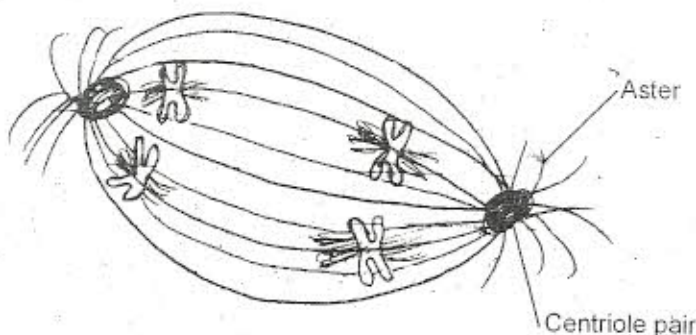
b) Name two genes in man that show incomplete dominance.

(2 marks)

12. A leaf of a potted plant which had been kept in the dark for 24 hours was smeared with white petroleum jelly on its lower surface and exposed to sunlight for 6 hours. Starch test on the leaf was negative. Account for this observation.

(3 marks)

13. The diagram below shows a cell undergoing cell division. Study it and answer the questions that follow.



(i) Identify the type of cell division.

(1 mark)

(ii) Give a reason for your answer.

(1 mark)

(iii) Name the stage of cell division represented by the diagram above.

(1 mark)

14. State three biological importance of tropic responses in plants.

(3 marks)

15. In an experiment, a variety of garden peas having a smooth coat were crossed with a variety having wrinkled seed coat. All the seeds obtained in F<sub>1</sub> generation had a smooth seed coat, the F<sub>1</sub> generation was selfed. The total number in F<sub>2</sub> generation was 7324.

(i) Using appropriate letters work out the genotypes of F<sub>2</sub> generation.

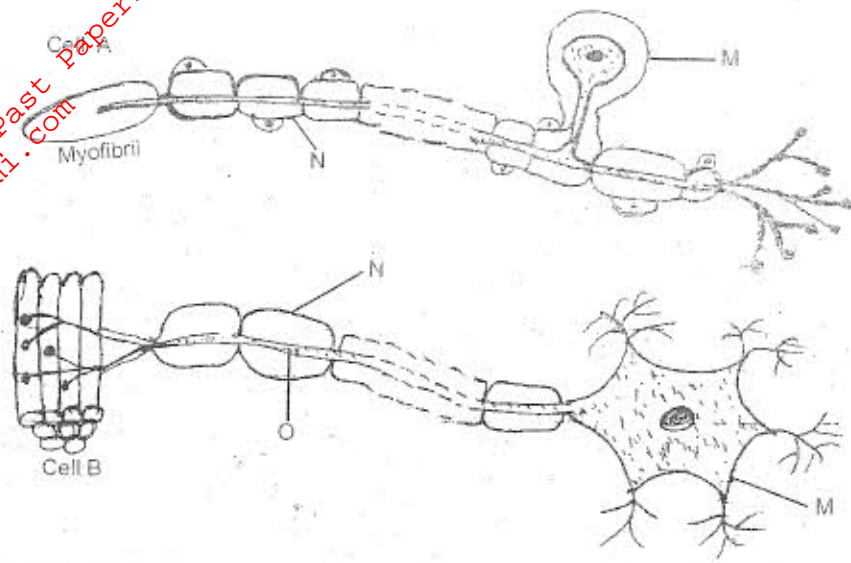
(ii) Calculate the number of plants in F<sub>2</sub> generation that are

(a) Smooth seeded

(b) Wrinkled seeded



16. The diagram below represents two types of nerve cells commonly found in mammals.



a) Name cells A and B. (2 marks)

A \_\_\_\_\_  
B \_\_\_\_\_

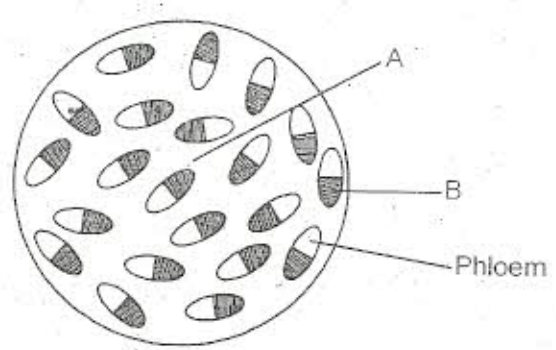
b) Name the structures labelled M, N, O. (3 marks)

M \_\_\_\_\_  
N \_\_\_\_\_  
O \_\_\_\_\_

17. Name two types of skeletons found in animals. (2 marks)

\_\_\_\_\_  
\_\_\_\_\_

18. The figure below shows a transverse section of a monocot stem. Study it and answer the questions that follow.



a) Name parts A and B. (2 marks)

A \_\_\_\_\_  
B \_\_\_\_\_

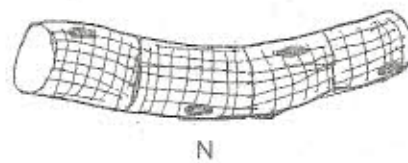
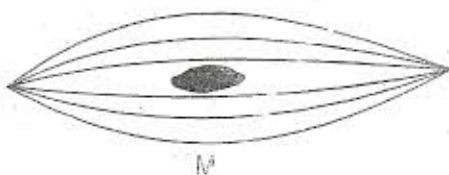
b) State the function of part labelled A.

(1 mark)

19. State one demerit of the Lamark theory of evolution.

(2 marks)

20. The figures below illustrate specialized cells in an animals body.



a) Identify the cells M and N.

(2 marks)

M

N

b) State the structural difference between M and N.

(2 marks)

c) Which of the above specialized cells is found in the gut.

(1 mark)

21. State the function of the following cell organelles.

(2 marks)

a) Centrioles

b) Mitochondrion

22. Give two functions of blood as a tissue.

(2marks)

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23. State two features of a corolla that enhances insect pollination.

(2 marks)

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24. State the role of each of the following enzymes in the body.

(2 marks)

a) Catalase

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b) Carbonic anhydrase

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25. Name the causative organism of the following diseases.

(2 marks)

a) Malaria

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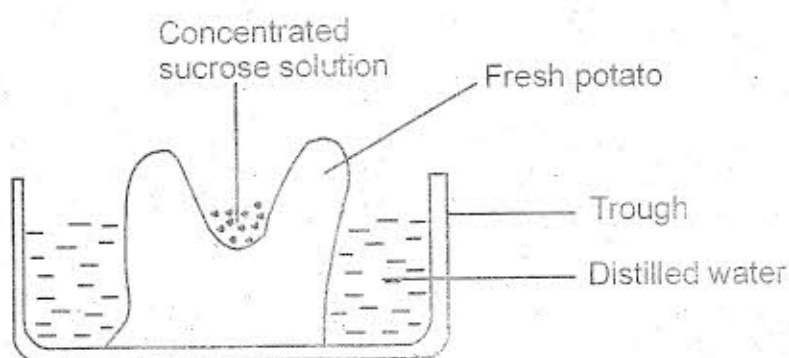
b) Bilharzia

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26. The experiment illustrated below was set up to investigate a certain physiological processes using a fresh potato tuber and answers



- a) Suggest a possible physiological process that was being investigated: (1 mark)

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- b) Explain the results obtained in the above experiment after few hours. (2marks)

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- c) State the observations that would have been made if the experiment was repeated using boiled potato. (2marks)

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27. State the functions of the following parts of the human ear. (2marks)

- a) Ossicles

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b) Utriculus

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28. Name the specialized cells that are involved in the uptake of mineral salts by plants from the soil. (1 mark)

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29. State two components of blood that are absent in glomerular filtrate. (2marks)

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