STAREHE BOYS HIGH SCHOOL MOCK 2015

BIOLOGY PAPER 1

1. Name the causative agent of cholera. (1 mark)

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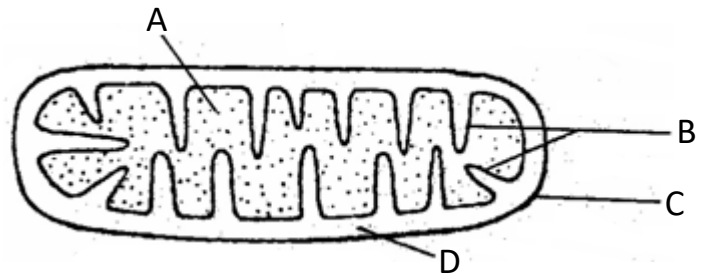
2. The diagram **below** represents a cell organelle.



(a) Identify the organelle. (1 mark)

_____

(b) Name the part labelled **B**. (1 mark)

_____

(c) State the function of part labelled **A**. (1 mark)

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3. State the functions of the following parts of a light microscope.
(a) Condenser. (1mark)

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_____

(b) Diaphragm. (1 mark)

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4. (a) Explain **three** ways in which a red blood cell is adapted to its function. (3 marks)

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(b) In which form is carbon (IV) oxide transported. (1 mark)

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5. State the functions of the following organelles.

(i) Centriole. (1 mark)

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(ii) Nucleolus. (1 mark)

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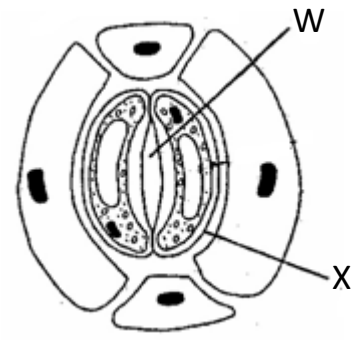
6. The diagram **below** shows part of plant tissue.



(a) Name cell labelled **X** and part labelled **W**. (2 marks)

X _____

W _____

(b) State **two** adaptations of cell labelled **X** to its function.

_____

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7. (a) Differentiate between hypogeal germination and epigeal germination. (2 marks)

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(b) State **two** causes of dormancy in seed. (2 marks)

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8. (a) Define polyploidy. (1 mark)

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(b) Name **three** disorders resulting from gene mutations. (3 marks)

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9. (a) Distinguish between homologous and analogous structure. (2 marks)

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(b) Explain the term continental drift as used in evolution. (2 marks)

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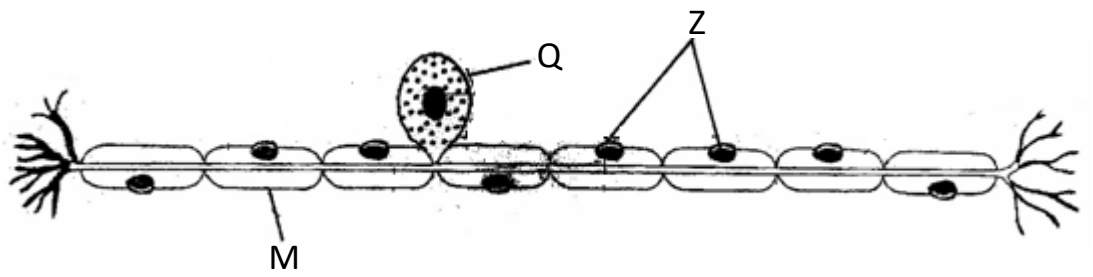
10. The diagram **below** represents a sensory cell.



(a) Identify with a reason the type of neurone above. (1 mark)

_____

Reason: (1 mark)

_____

_____

_____

(b) Name parts labelled. (2 marks)

Q _____

Z _____

11. (a) Name **three** supportive tissues in plants. (3 marks)

(i) _____

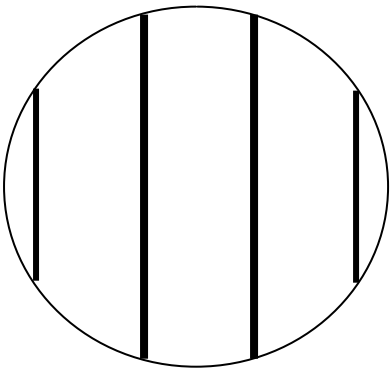
(ii) _____

(iii) _____

(b) Name the type of muscles found in the gut. (1 mark)

_____

12. A form one student trying to estimate the size of onion cells observed the following on the microscope's field of view.



(a) Define the term resolving power. (1 mark)

_____

_____

_____

(b) If the student counted 20 cells across the field of view calculate the size of one cell in micrometers. (2 marks)

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13. (a) Distinguish between transpiration and guttation. (2 marks)

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(b) State **two** importance of guttation in hydrolytes. (2 marks)

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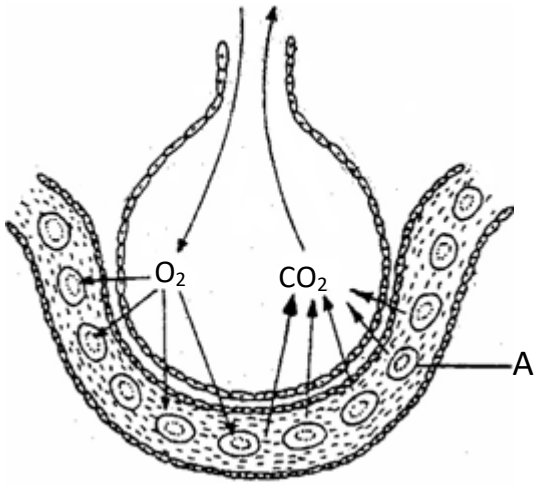
14. The diagram **below** shows the exchange of gases in alveolus.



(a) State how the alveoli are adapted to their function. (3 marks)

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_____

_____

_____

(b) Name the cell labelled **A**. (1 mark)

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15. (a) Distinguish between respiratory quotient and oxygen debt. (2 marks)

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_____

(b) Name the site where anaerobic respiration occurs in the cell. (1 mark)

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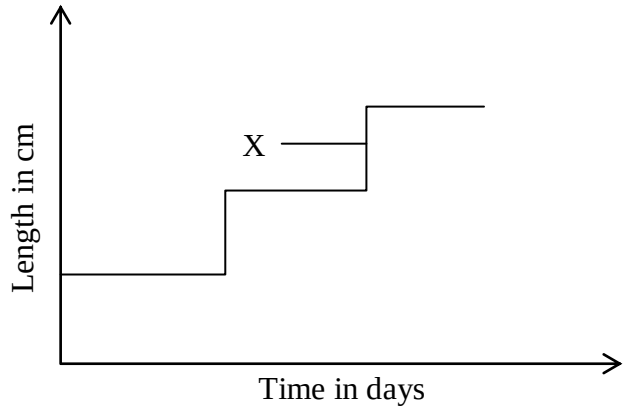
16. Study the graph **below** and answer the questions that follow.



(a) What is the name given to the type of graph? (1 mark)

_____

(b) What is the name used to describe point **X**. (1 mark)

(c) State the importance of part **X**. (1 mark)

(d) Name the phylum in which the graph represented in above occurs. (1 mark)

17. (a) Define the term natural selection. (1 mark)

(b) Name **three** evidence of organic evolution. (3 marks)

18. State **one** adaptation of the following parts of mammalian eye.

(i) Fovea centralis. (1 mark)

(ii) Sclera. (1 mark)

(iii) Cilliary body. (1 mark)

_____

_____

19. Name the cartilage found between vertebrae of the vertebral column. (1 mark)

_____

20. (a) Differentiate between gaseous exchange and ventilation. (2 marks)

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_____

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_____

(b) Name the respiratory sites of the following:

(i) Fish (1 mark)

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(ii) Insects (1 mark)

_____

21. (a) Name **two** cardiovascular diseases. (2 marks)

_____

_____

(b) If the nerve supply to the heart of a mammal is severed the rythymic heart contraction and relaxation will go on and heart continues to beat. Explain why. (2 marks)

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_____

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22. Name **two** major branches of Biology. (2 marks)

23. (a) State the functions of the following apparatus.

(i) Bait trap. (1 mark)

(ii) Pooter. (1 mark)

24. State **two** structural adaptations of veins to their function. (2 marks)

25. Name the process that results to formation of tissue fluid. (1 mark)

26. What is serum? (1 mark)