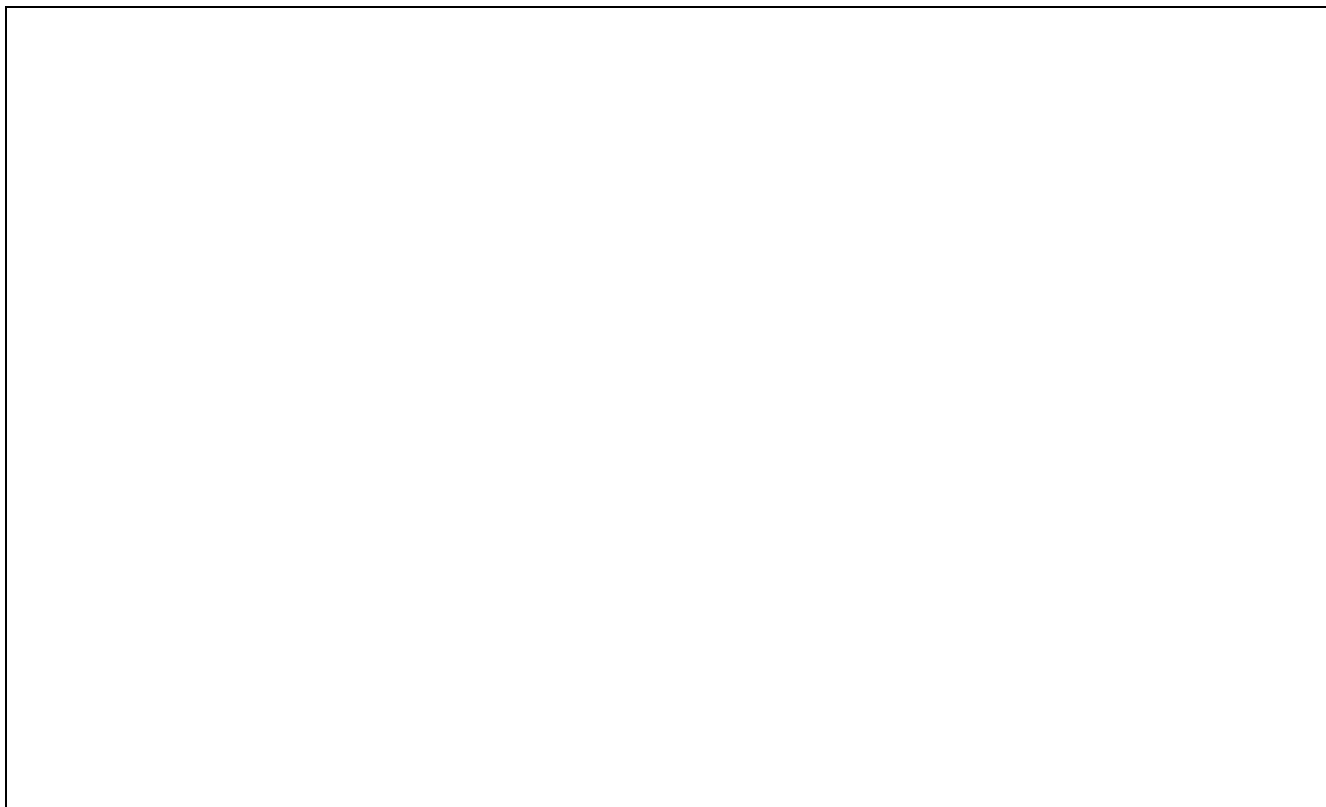


Exam Prep extended response *[120 marks]*

Life is based on carbon compounds.

1a. Draw a molecular diagram of alpha-D-glucose.

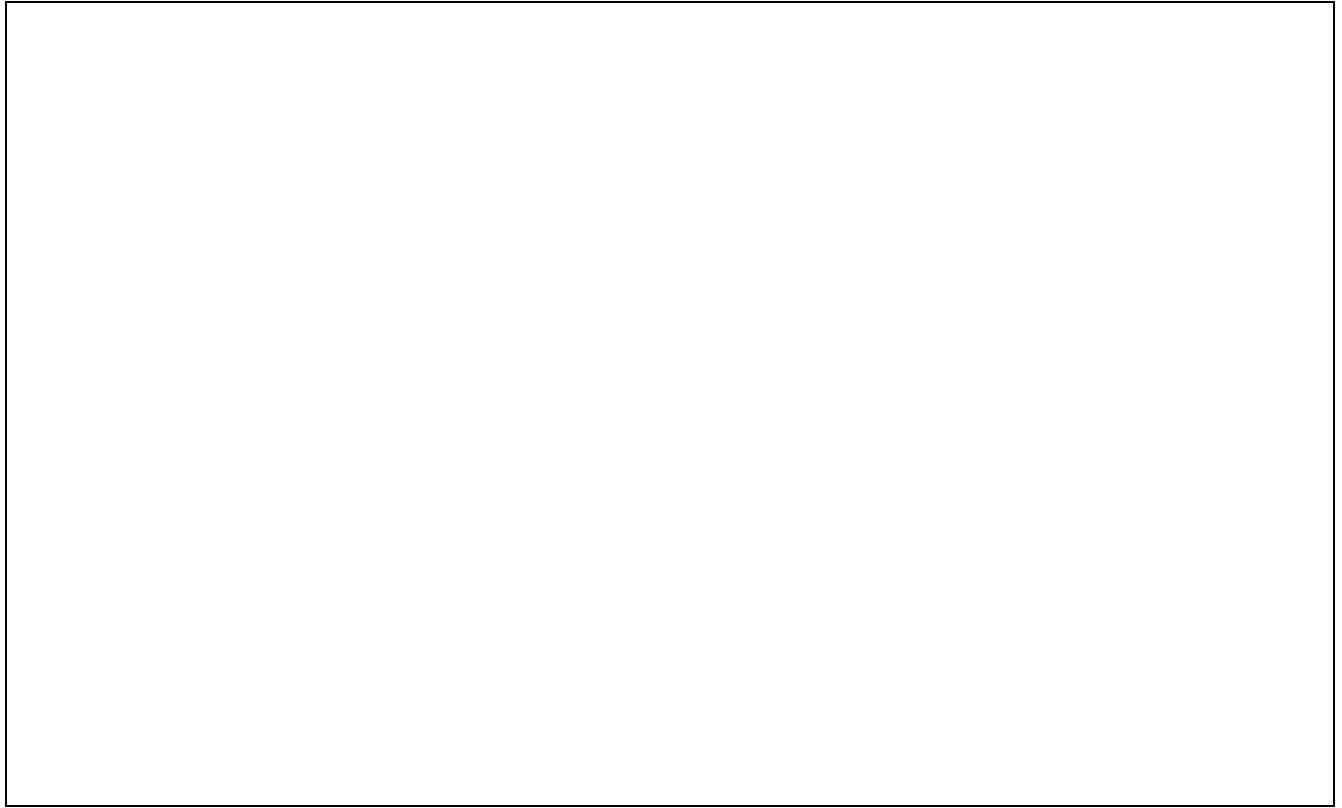
[3 marks]



According to the cell theory, living organisms are composed of cells.

2a. Draw the ultrastructure of a prokaryotic cell based on electron micrographs.

[3 marks]



2b. Outline what occurs in cells in the first division of meiosis.

[5 marks]

[illegible]

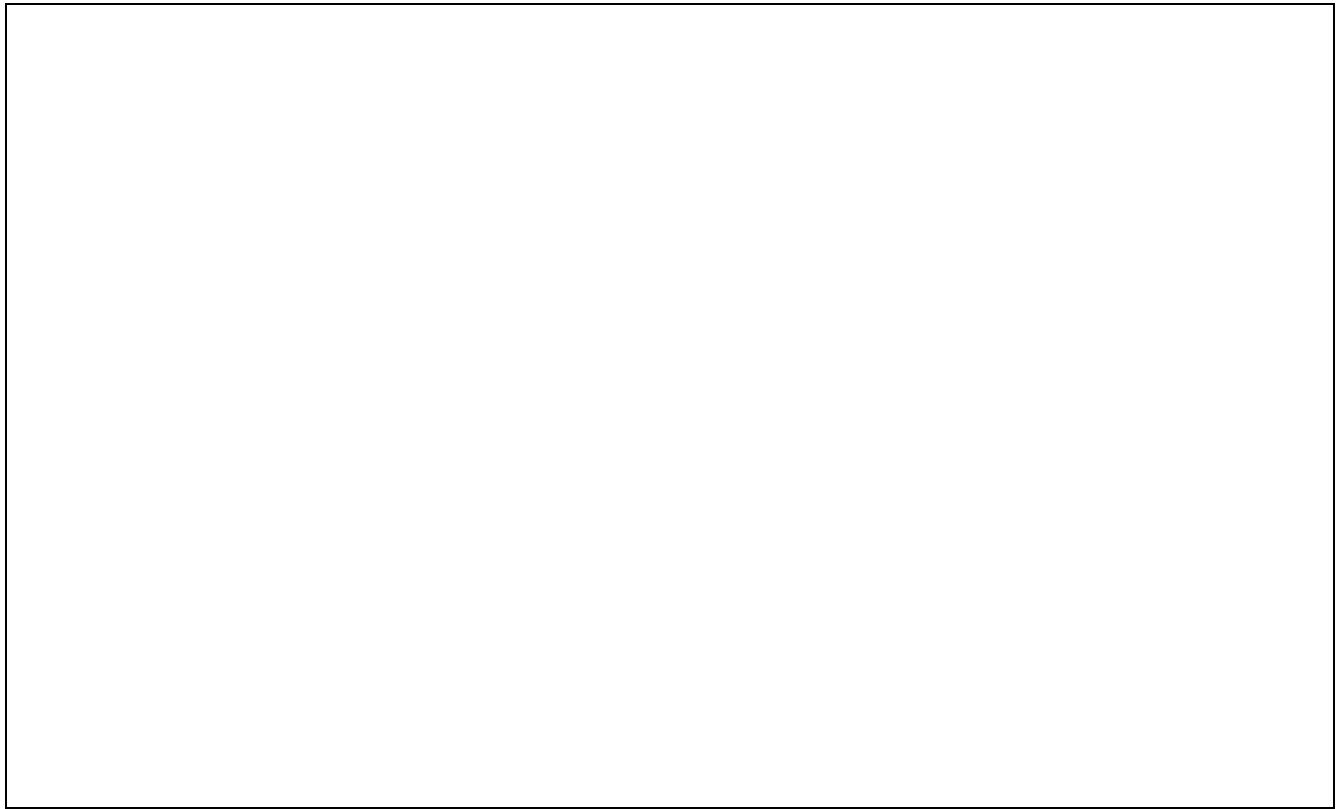
2c. Explain the role of cells in the defence against infectious disease.

[7 marks]

This image shows a full page of primary-ruled paper. It features approximately 20 horizontal dotted lines spaced evenly down the page, providing a guide for handwriting practice. The paper is otherwise blank, with no margins or additional markings.

3a. Draw a section of the Singer-Nicolson model of an animal cell membrane.

[4 marks]



3b. Outline the principles used by scientists to classify organisms.

[4 marks]

[illegible]

3c. Explain the movement of energy and inorganic nutrients in an ecosystem.

[7 marks]

[illegible]

4a. Outline how cuts in the skin are sealed to prevent blood loss.

[4 marks]

[illegible]

[4 marks]

4c. Explain how ventilation and lung structure contribute to passive gas exchange. [7 marks]



5a. Outline the stages in the production of mRNA by transcription.

[4 marks]

[illegible]

5b. Describe the functions of proteins in cell membranes.

[4 marks]

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.

5c. Explain how natural selection can lead to speciation.

[7 marks]

[illegible]

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins or other markings on the paper.

6b. Outline the role of amylase in digestion in humans.

[4 marks]

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.

6c. Explain how plants capture and use light in photosynthesis.

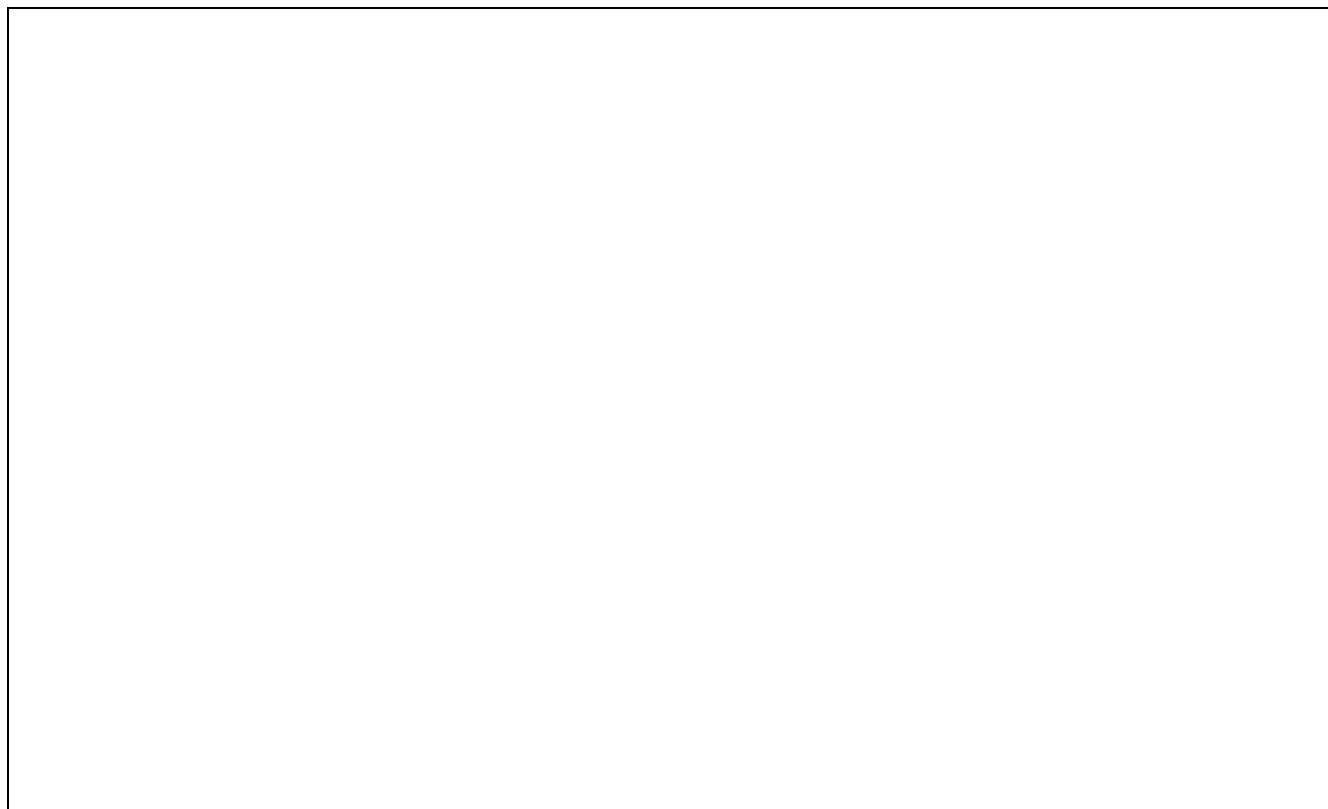
[7 marks]

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no text or other markings on the paper.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins or other markings on the paper.

7b. Draw the structure of a dipeptide.

[3 marks]



8a. Describe briefly the endosymbiotic theory.

[3 marks]

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

8b. Outline how photosynthesis produces glucose.

[4 marks]

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

