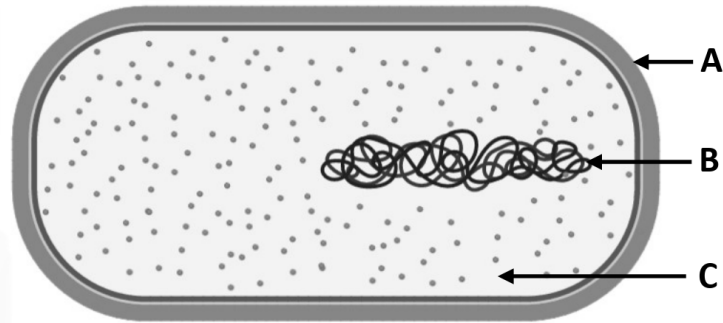


(c) The diagram shows the structure of a typical bacteria cell.

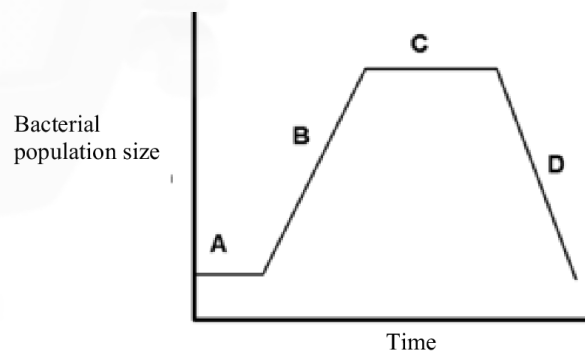


- (i) Identify the bacterial structures labelled **A**, **B**, **C** on the diagram.
- (ii) What is the function of **C**?
- (iii) What is meant by the term *asexual reproduction*?
- (iv) Name the type of asexual reproduction used by bacteria.
- (v) State any **two** factors that affect the growth of bacteria.
- (vi) Describe **two** examples of the economic importance of bacteria.

- (c) (i) Name the **three** general shapes of bacterial cells.
- (ii) What is meant by the term *pathogen*?
- (iii) What is the difference between 'asepsis' and 'sterility'?
- (iv) Give **one** way in which bacteria cope with unfavourable environments.
- (v) When growing bacteria in the laboratory, samples are taken regularly from the growth medium and the number of cells per millilitre is counted. A graph of the results is drawn and is similar to the one shown below.

Answer the following questions in relation to this graph.

1. Name the stages B, C and D.
2. Explain what is happening during stage C.
3. Distinguish between batch processing and continuous flow in food processing. Refer to the stages labelled in the graph in your answer.



- (b) (i) Name the kingdom to which bacteria belong.
- (ii) Draw a large diagram of a bacterial cell to show:
1. The relative positions of the cell wall, cell membrane and capsule.
  2. A plasmid.
- Label **each** of the above structures.
- (iii) 1. Under what circumstances does a bacterial cell form an endospore?
2. Describe briefly how an endospore forms.
- (iv) Name **two** types of heterotrophic nutrition used by bacteria.

