Self-test questions

Option B (SL)

1 Which of the following is true for Gram-negative bacteria?
- **A** They appear blue–purple after Gram staining.
- **B** They are the most abundant group of bacteria.
- **C** They contain little or no peptidoglycan in their walls.
- **D** They are all photosynthetic.

2 Which of these conditions is/are controlled in a batch fermenter?
- **i** temperature
- **ii** nutrient concentration
- **iii** accumulation of product
- **iv** pH
- **A** i only
- **B** ii and iii only
- **C** i and iv only
- **D** i, ii, iii and iv

3 Pathway engineering might be used to do which of the following?
- **A** separate the product from the fermenter
- **B** produce biogas
- **C** ensure conditions are maintained at their optimum
- **D** enhance production of required metabolites

4 Which of the following can take up recombinant DNA?
- **i** chromosomes
- **ii** chloroplasts
- **iii** chlorophyll
- **A** i only
- **B** i and ii only
- **C** i, ii and iii
- **D** ii and iii only

5 Which of the following is **not** a use of genetic modification in crop plants?
- **A** enabling crops to grow in areas where the conditions are difficult
- **B** enabling plants to produce new products
- **C** production of vaccines
- **D** production of secondary metabolites

6 The bacterium *Agrobacterium tumefaciens* is used to transfer genes into soybean and maize plants because:
- **A** it has a plasmid known as Ti, which produces tumours
- **B** Ti plasmid carries glyphosate resistance genes
- **C** recombinant plasmids can be introduced into *A. tumefaciens* cells, which then infect plants
- **D** recombinant plasmids remain inside bacterial cells and cannot affect the environment

7 Which of the following is a description of a bioremediation treatment?

A spraying an oil slick with detergent

B using microorganisms to oxidise hydrocarbons

C adding phosphate fertilisers to encourage the decomposition of crude oil

D using extracellular polysaccharides that allow bacteria to stick to each other

8 Which characteristic is a biofilm likely to possess?

A the ability to cause disease

B resistance to bacteriophages

C the ability to degrade pollutants

D emergent properties