

# Self-test questions

## General test 2 (SL)

- 1 In the structure of DNA, which of these molecules binds to guanine?  
**A** deoxyribose  
**B** ribose  
**C** thymine  
**D** adenine
- 2 Which substance is a base found in RNA?  
**A** ribose  
**B** thymine  
**C** adenosine  
**D** uracil
- 3 What causes water to have a high boiling point compared to molecules of similar size?  
**A** hydrogen bonds between water molecules  
**B** hydrogen bonds between hydrogen and oxygen within water molecules  
**C** cohesive forces between water molecules and the container in which the water is boiled  
**D** covalent bonds between hydrogen and oxygen within water molecules
- 4 When will the secretion of glucagon increase?  
**A** after a long period without food  
**B** when the temperature falls  
**C** while sleeping  
**D** after a meal containing large amounts of carbohydrate
- 5 What is taking place in the heart when the semilunar valves close?  
**A** Blood is entering the aorta and the pulmonary artery.  
**B** Blood is entering the aorta and the ventricles.  
**C** Blood is entering the ventricles.  
**D** Blood is entering the ventricles and the ventricles are contracting.
- 6 What are the main sources of carbon dioxide in the atmosphere?  
**A** photosynthesis and cell respiration of consumers  
**B** cell respiration of producers and combustion of fossil fuels  
**C** photosynthesis and combustion of fossil fuels  
**D** cell respiration of producers and consumers, and combustion of fossil fuels
- 7 What is meant by the term 'natural selection'?  
**A** It is the method by which the chance of certain individuals producing offspring is increased.  
**B** It is the process that leads to increasing variation in a population.  
**C** It is the cumulative change in heritable characteristics in a population.  
**D** It is the theory explaining why populations always produce more offspring than can survive.
- 8 What is a sex-linked gene?  
**A** a gene found only on the Y chromosome  
**B** a gene found on the X and the Y chromosome  
**C** a gene found on the X or Y chromosome  
**D** a gene found on the X chromosome only

- 9 Which of the following blood groups always has a homozygous genotype?
- A AB
  - B A
  - C O
  - D B
- 10 Which enzymes are used in techniques to transfer genes and form transgenic organisms?
- A endonuclease and lipase
  - B ligase and amylase
  - C ligase and lipase
  - D restriction enzyme and ligase