

3 Enzymes — Part 1 — Answers

Answers

Work through these after trying the questions yourself.

3.1 Globular proteins.

3.2 Intracellular enzymes work inside the cell that made them; extracellular enzymes are secreted to work outside the cell.

3.3 (a) the active site \ (b) an enzyme–substrate complex.

3.4 The active site has a specific shape that is complementary to (fits) only that one substrate, so no other substrate can bind.

3.5 In induced fit the active site changes shape slightly to fit the substrate (in lock-and-key it is fixed).

3.6 It lowers the activation energy, so more molecules have enough energy to react and the reaction goes faster at normal temperature.

3.7 With the active site blocked, the substrate can no longer enter and bind, so no enzyme–substrate complex can form. Without that complex the enzyme cannot lower the activation energy, so the reaction is no longer catalysed.