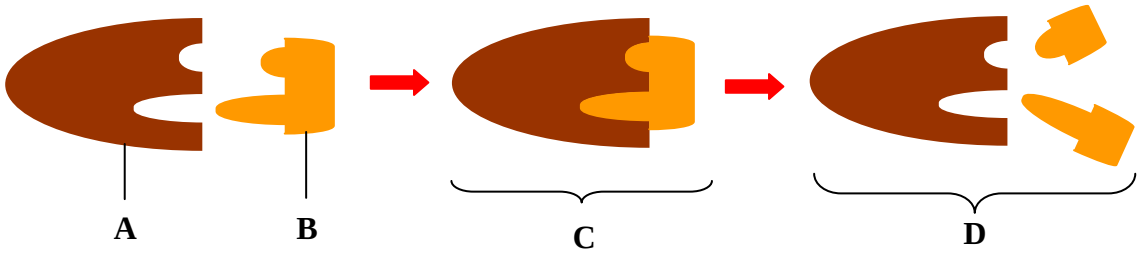
CHAPTER 4: CHEMICAL COMPOSITION OF THE CELL

The Lock and Key Hypothesis

1. The diagram below shows the action of an enzyme on a substrate. Which of the molecules, **A, B, C** or **D,** represents an enzyme-substrate complex?



2. Which statements about the lock and key hypothesis are true?

I The enzyme splits up after a reaction.
II A temporary enzyme-substrate complex forms.
III The substrate fits into the active site of the enzyme.
IV Products of different shapes are expelled from the active site.

A I, II and III
B I, II and IV
C II, III and IV
D I, III and IV

3. Which of the following statements about the active site of an enzyme in the lock and key hypothesis are true?

I It is reusable.
II It is a two-dimensional site.
III Chemical reaction only happens here.
IV It acts as the 'key' of the enzyme.

A I and III
B II and III
C II and IV
D III and IV