8.1 Metabolism

Question Paper

Course	DP IB Biology
Section	8. Metabolism, Cell Respiration & Photosynthesis (HL Only)
Topic	8.1 Metabolism
Difficulty	Easy

Time allowed: 10

Score: /5

Percentage: /100

Question 1

Which of the following statements is **not** true about enzymes in metabolic pathways?

A. All metabolic reactions are catalysed by an enzyme.

B. All proteins are enzymes.

C. All enzymes are proteins.

D. All enzymes reduce activation energy of metabolic reactions in living organisms.

[1 mark]

Question 2

The following statements are about enzymes:

1. The speed that they function at can be reduced by competitive inhibitors.
2. Their primary structure is translated from mRNA.
3. They can be embedded in the plasma membrane of a cell.
4. They all have quaternary structures.

Which of these statements are correct for all enzymes?

A. 1 and 3 only

B. 1, 2 and 3 only

C. 2, 3 and 4 only

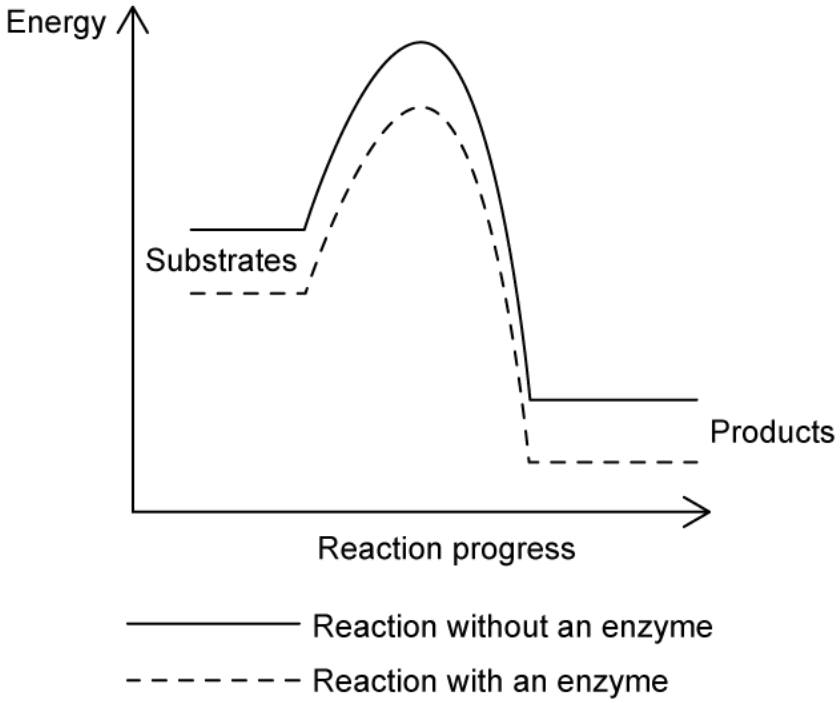
D. All of them are correct

[1 mark]

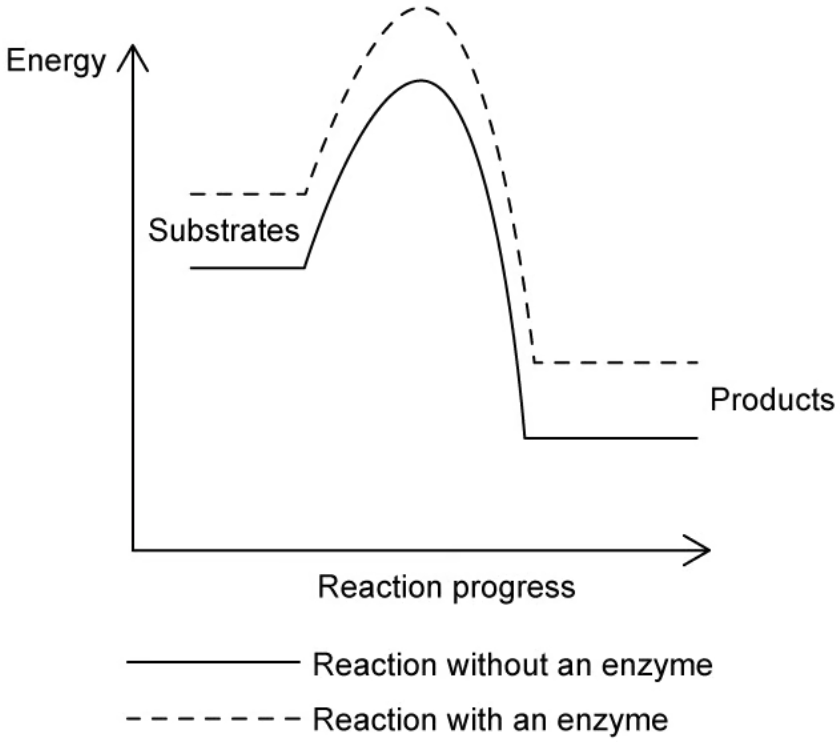
Question 3

Which of the following sketch graphs best shows the effect of an enzyme on a biochemical reaction profile?

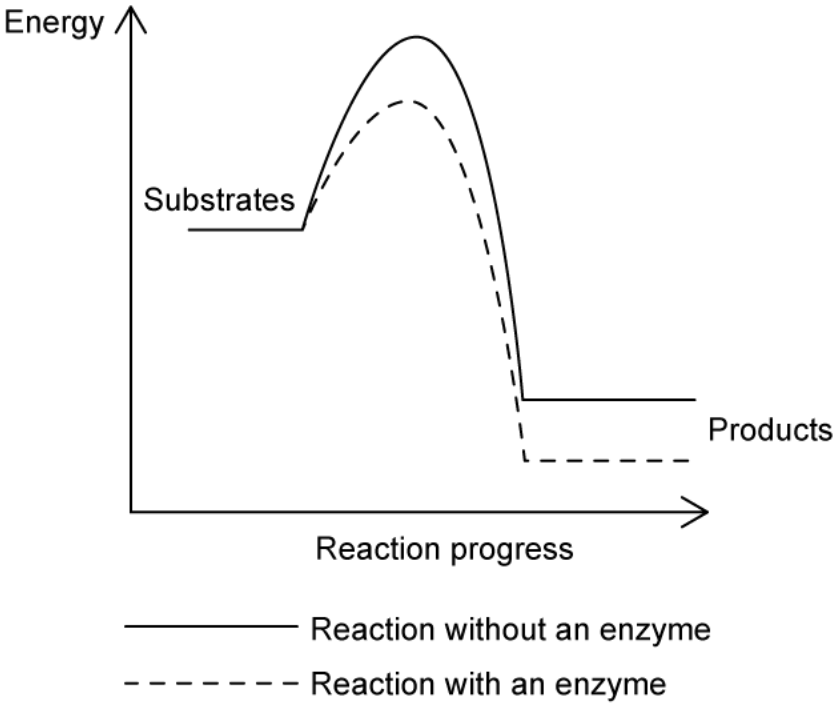
A.



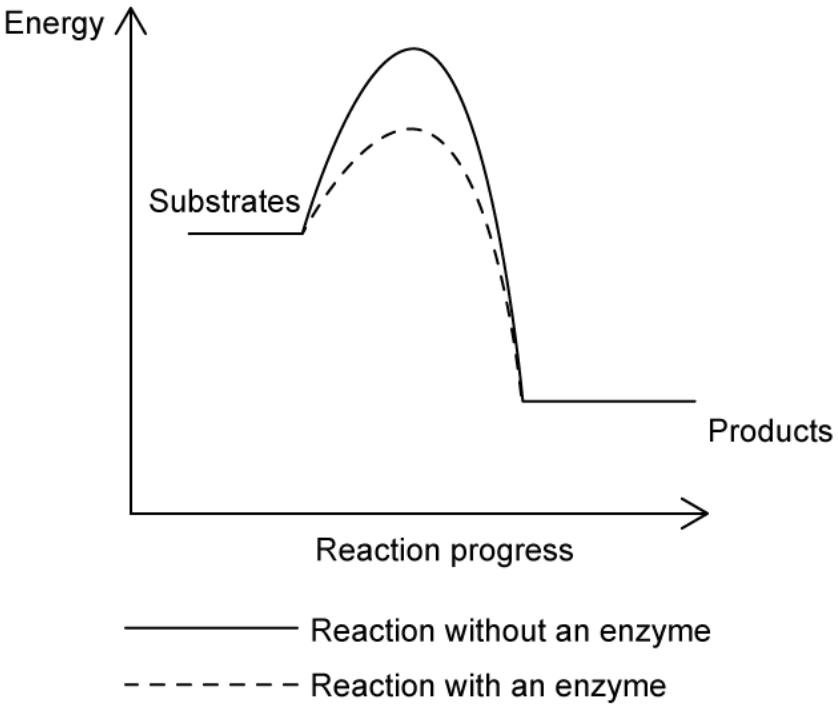
B.



C.



D.



[1 mark]

Question 4

Which **one** of the following phenomena is **not** a consequence of end-product inhibition in biochemical pathways?

A. Regulation of the pathway.

B. Prevention of a build-up of biochemical intermediate compounds.

C. Shutdown of the pathway once product levels reach zero.

D. Allosteric changes to an enzyme involved in the pathway.

[1 mark]

Question 5

Enzymes alter the activation energy required for a biochemical reaction to take place. Which of the following gives the best definition of activation energy?

A. The energy input required to break bonds in order for a reaction to take place.

B. The energy is released as bonds breaks in a reaction.

C. The energy required to allow substrates and enzymes to be closely aligned at the active site.

D. The energy given off when an enzyme-substrate complex forms.

[1 mark]