

Chapter – 9 | Biomolecules**QUIZ
PART-06**

1. Enzyme action requires formation of —

- A. Enzyme-substrate complex
- B. Cellulose chain
- C. DNA helix only
- D. Glycogen granule (A)

Explanation : The enzyme and substrate first combine to form an enzyme-substrate complex.

2. After product formation, the enzyme —

- A. Becomes permanently destroyed
- B. Becomes free for another substrate
- C. Changes into substrate
- D. Turns into inhibitor (B)

Explanation : Enzyme releases the product unchanged and can start another catalytic cycle.

3. Enzyme activity is affected by —

- A. Temperature and pH
- B. Substrate concentration
- C. Enzyme concentration and inhibitors
- D. All of the above (D)

Explanation : Temperature, pH, substrate concentration, enzyme concentration and inhibitors affect enzyme activity.

4. Optimum temperature for enzyme activity is generally —

- A. 0°C to 5°C
- B. 20°C to 35°C
- C. 60°C to 80°C
- D. 90°C to 100°C (B)

Explanation : The PPT mentions optimum enzyme temperature as 20°C to 35°C.

5. Most enzymes work efficiently in pH range —

- A. 1.0–2.5
- B. 3.0–4.0
- C. 5.0–7.5
- D. 10.0–12.0 (C)

Explanation : Most enzymes function efficiently in pH range 5.0–7.5.

6. High temperature reduces enzyme activity because it —

- A. Denatures enzyme protein
- B. Forms starch
- C. Produces cellulose
- D. Increases ash content (A)

Explanation : High temperature changes the protein structure of enzymes and denatures them.

7. At low substrate concentration, enzyme action is slow because —

- A. All active sites are not occupied
- B. Enzymes are absent
- C. Products are already formed
- D. pH becomes zero (A)

Explanation : At low substrate concentration, substrate molecules do not bind to all active sites.

8. The maximum rate of enzyme reaction is called —

- A. Vmax
- B. Km only
- C. pH value
- D. Activation point (A)

Explanation : Maximum velocity at sufficient substrate concentration is called Vmax.

9. Competitive inhibitors have structure similar to —

- A. Substrate
- B. Product only
- C. Enzyme protein
- D. Water molecule (A)

Explanation : Competitive inhibitors resemble substrates and compete for active sites.

10. Cyanide inhibits which enzyme in respiration?

- A. Cytochrome oxidase
- B. Amylase
- C. Lipase
- D. Maltase (A)

Explanation : Cyanide is a non-competitive inhibitor of cytochrome oxidase.