

Class: 11

Subject: Biology

Topic: Enzymes

No. of Questions: 20

Duration: 60 Min

Maximum Marks: 60

1. Chemically enzymes are-

- a. Fats
- b. Carbohydrates
- c. Hydrocarbons
- d. Proteins

Ans. C

2. Allosteric enzymes have allosteric sites for-

- a. Inhibition only
- b. Activation only
- c. Reduction in activation energy
- d. Both activation and inhibition

Ans. D

3. Substrate concentration at which an enzyme attains half of its max. velocity is

- a. Half-life of enzyme
- b. Km-constant of enzyme
- c. Concentration ratio
- d. None of these

Ans. D

4. Energy required for start of biochemical reaction is

- a. Potential energy
- b. Entropy
- c. Activation energy
- d. Kinetic energy

Ans. B

5. Part of active site of enzyme, where substrate is supported
- Catalytic group
 - Buttressing group
 - Activation chamber
 - Ki – constant

Ans. C

6. An organic substance bound to an enzyme and essential for its activity is called
- Apoenzyme
 - Isoenzyme
 - Coenzyme
 - Holoenzyme

Ans. B

7. DNA polymerase enzyme is required for the synthesis of
- DNA from DNA
 - DNA from RNA
 - Both (a) and (b)
 - DNA from nucleosides

Ans. C

Solution:

An organic substance bound to an enzyme and essential for its activity is called coenzyme.

8. Ligase enzyme is used for
- Denaturation of DNA
 - Splitting DNA into small bits
 - Joining bits of DNA
 - Digestion of lipids

Ans. C

9. The k_m value of the enzyme is the value of the substrate concentration at which the reaction reaches to
- Zero
 - $2V_{max}$
 - $\frac{1}{2} V_{max}$
 - $\frac{1}{4} V_{max}$

Ans. C

Solution:

Ligase enzyme is used for joining bits of DNA

10. An enzyme increases the rate of a reaction by:
- Supplying the energy required to start the reaction.
 - Increasing the rate of random collisions of molecules.
 - Removing the product of the reaction so allowing it to continue.
 - Bringing the reacting molecules in to precise orientation with each other.

Ans. D

Solution:

An enzyme reduces the activation energy needed for the reaction to occur by binding with a substrate and straining its bonds so allowing for easier reaction, or binding multiple substrates in a way that brings them together in a precise orientation so they can react readily with one another.

11. Who first used the term "enzyme"?
- J.B. sumner
 - Kuhne
 - Thompson
 - Garnier

Ans. B

Solution:

The term enzyme was used by Willy Kuhne while working on fermentation.

12. Who coined the term zymase for enzymes in yeast?
- Kuhne
 - Sumner
 - Louis Pasteur
 - Edward Buchner

Ans. B

Solution:

Zymase is complex of enzyme. It obtained from yeast

13. The “lock and key” model of enzyme action illustrates that a particular enzyme molecule
- May be destroyed and resynthesized several times
 - Interacts with a specific type of substrate molecule
 - Reacts at identical rates under all conditions
 - Forms a permanent enzyme-substrate complex

Ans. B

14. Biological catalysts are called
- Auxins
 - Gibberellins
 - Enzymes
 - All of these

Ans. C

15. Enzymes are different from inorganic catalysts
- Not being used up in reactions
 - Being proteinaceous in nature
 - Having high diffusion rate
 - Working at high temperature

Ans. B

16. Most enzymes consist of two parts; these are
- Enzyme and substrate
 - Enzyme and coenzyme
 - Apoenzyme and enzyme
 - Apoenzyme and prosthetic group

Ans. D

17. When coenzyme is combined with apoenzyme, it is called
- Cofactor
 - Holoenzyme
 - Substrate enzyme complex
 - Vitamin A

Ans. B

18. Non-protein part of an enzyme is known as

- a. Holoenzyme
- b. Apoenzyme
- c. Coenzyme
- d. All of these

Ans. C

19. Which of the followings is iron porphyrin coenzyme or cofactor?

- a. Cytochrome
- b. FAD
- c. CoA
- d. NAD

Ans. A

20. The most important property of an enzyme is its

- a. Composition
- b. Thermal denaturation
- c. Specificity
- d. Solubility

Ans. C

Solution:

Because a particular enzyme can catalyse only a particular type of reaction