

Questions on Enzyme

1. Which statement describes all enzymes?

- A. They control the transport of materials chemical
- B. They affect the rate of chemical reaction the environment
- C. They provide energy for
- D. They absorb oxygen from

2. Which of the following substances can be used over and over again in an enzyme catalyzed reaction (2009 E.C.)?

- A. Enzyme-substrate complex
- B. Enzyme
- C. Substrate
- D. Reaction product

3. When a chemical binds to an enzyme and change the shape of the enzyme so that the enzyme can facilitate catalysis, the chemical is said to be:

- A. a reverse
- B. an activator
- C. an effector
- D. an inhibitor

4. What is the intermediate compound that is formed during an enzyme catalyzed reaction (2009 E.C.)?

- A. Reactant
- B. Product
- C. Substrate
- D. Enzyme-substrate complex

5. For biological detergent to effectively remove oily and greasy dirt, which of the following enzymes should it contain? A. Amylase B. Lipase C. Protease D. Cellulase

6. Most co-enzymes are the derivatives of which of the following nutrients (2009 E.C.)?

- A. Proteins
- B. Carbohydrate
- C. Vitamins
- D. fats

7. To produce glucose from starch, which of the following enzymes would one use (2009 E.C.)?

- A. Isomerases
- B. Lyases
- C. Hydrolases
- D. Ligases

8. Which class of enzyme inhibitors has similar shape as that of the normal substrate (2009 E.C.)?

- A. Allosteric
- B. Competitive
- C. Denaturing
- D. Irreversible

9. Which of the following pairs of molecules are known to have catalytic activity?

- A. Proteins and DNA
- C. Proteins and lipids
- B. Proteins and RNA
- D. Proteins and carbohydrates

10. Which type of enzyme catalyzes the joining of two molecules by the formation of new bonds (2009 E.C.)?

- A. Decarboxylase
- B. Ligase
- C. Dehydrogenase
- D. Oxidoreductase

11. Which of the following statements about enzymes is NOT correct (2009 E.C.)?

- A. Enzymes speed up a chemical reaction
- B. Enzymes are very specific in their reaction
- C. The presence of an enzyme will change the outcome of a reaction
- D. Enzymes lower the energy of activation for a reaction to occur

12. What happens when enzymes become denatured (2009 E.C.)?

- A. They can normally catalyze the reactions
- C. Their active sites are changed
- B. Rate of reaction increases
- D. Bonds holding amino acids are unaffected

13. Which of the following types of enzyme inhibitions can be removed when the end product of the metabolic pathway is depleted?

- A. Competitive inhibition
- C. Non-reversible-inhibition
- B. Allosteric inhibition
- D. Reversible competitive inhibition

14. Which of the following can reverse an enzyme inhibition that is caused by an allosteric inhibitor (2009 E.C.)?

- A. Adding more substrate
- C. Depleting the end product
- B. Adding more end product
- D. Depleting the substrate

15. What is an Apoenzyme (2009 E.C.)?

- A. A protein molecule
- C. A non-protein molecule

B. An active enzyme

D. A non-protein cofactor

16. Into which of the following organic compounds can lipase, maltase, and sucrase be grouped (2007 E.C.)?

A. Hormones
Enzymes

B. Carbohydrates

C. Nucleic acids

D.

17. If an enzyme is provided with the normal substrate plus another molecule having the same shape and size as the substrate, which one of the following would happen ((2003E.C)?)

A. Allosteric inhibition

C. Competitive inhibition

B. Irreversible inhibition

D. End product inhibition

18. If one keeps on adding a substrate to a fixed amount of an enzyme, when does the reaction rate reach a plateau (2003)?

A. When all the substrate is converted to products

B. When most of the enzyme molecules are consumed

C. When all the active sites of the enzyme are occupied

D. When much of the products are accumulated

19. What do we call a substance upon which an enzyme acts (2004E.C.)?

A. Product
Enzymesubstrate complex

B. substrate

C. Activation energy

D.

20. Which of the following mechanisms do cells use to regulate enzyme catalyzed reaction in metabolic pathways (2004E.C.)?

A. Enzyme denaturation

C. Irreversible inhibition

B. End product inhibition

D. Competitive inhibition

21. Which factor has a more negative effect on the function of enzymes than others (2004E.C.)?

A. Neutral pH

C. Optimal amount of salt concentration

B. Very high temperature
concentration

D. Optimal amount of substrate

22. If the temperature enzyme catalyzed reaction is increased from 40% to 70%, the rate of the reaction will:

- A. Decrease to zero because the enzyme denatures B. Increase indefinitely C. Decrease immediately D. Decrease and then increase

23. In competitive inhibition, in which one of the following factors determines the rate of the inhibition (2004 E. C)?

- A. The reaction temperature C. The enzyme concentration
B. The substrate concentration D. The ratio of inhibitor to enzyme concentration

24. Which factor has a more negative effect on the functions of enzymes than the others (2004 E.C.)?

- A. Neutral pH concentration C. Optimal amount of substrate
B. Very high temperature D. Optimal amount of salt concentration

25. What are the environmental advantages of using enzymes in industry (2004 E.C)?

- A. It makes high production possible with less input of heat
B. It makes high production possible with high input of heat
C. It makes high production possible with emission of CO₂
D. It helps high production with supply of more heat and emission of more CO₂

26. Which of the following classes of enzymes digests carbohydrate (2005 E.C)?

- A. Amylase B. Lipases C. Proteases D. Nucleases

27. One of the following molecules is building units of an enzyme molecule (2005)?

- A. Amino acids B. Glucose C. Nucleic acids D. Fatty acids

28. What is true about the rate of an enzyme catalyzed reaction if the enzyme concentration is kept constant and the substrate is excess? The rate would

- A. not be determined B. stay constant C. increased continuously
D. decrease sharply

29. One of the following principles is most of the anti-HIV drugs currently in use working (2005 E.C)?

- A. Inhibition of enzyme action
- B. Degradation of the viral DNA
- C. Digesting viral particles
- D. Phagocytosis of the viruses

30. When an enzyme is denatured by heat or extreme pH, which one of the following does it lose (2004 E.C.)?

- A. The peptide bond
- B. Secondary structure
- C. Primary structure
- D. Tertiary structure

31. In the cause of enzymatic chemicals, what do you call the substance that is acted up on by an enzyme (2006)?

- A. Polypeptide
- B. Coenzyme
- C. Vitamin
- D. Substrate

32. According to IUB the first part of common name of enzyme refers to the

- A. Substrate
- B. Product
- C. Reaction
- D. Co-enzyme

33. Which of the following are the common characteristics of all enzymes (2006 E.C)?

- A. They act inside cells only
- B. They require cofactors
- C. They are proteins
- D. They operate at any pH

34. To which class of enzymes do the digestive enzymes belong (2005)?

- A. Esterases
- B. Transferases
- C. Hydrolases
- D. Isomerases

35. Which of the following types of enzyme inhibition can be removed when the end product of the metabolic pathway is depleted (2005 E.C)?

- A. Allosteric inhibition
- B. Non-reversible inhibition
- C. Competitive inhibition
- D. Reversible competitive inhibition

36. On which of the following principles are most of the anti-HIV drugs currently in use working (2005 E.C)?

- A. Inhibition of enzyme action
- B. Degradation of viral DNA
- C. Digesting of viral particles
- D. Phagocytosis of the viruses

37. Which group of organic compounds includes the enzymes (2006 E.C.)?

- A. Proteins B. Lipids C. Starches D. Carbohydrates

38. An enzyme sucrase is an example of

- A. Hydrolases B. Lyases C. Transferases D. Oxidoreductases

39. Which of the following pH values represents the strongest base (2006 E.C.)?

- A. 2 B. 7 C. 13 D. 15

40. Which region of human digestive tract contains enzymes that perform well at low pH (2006 E.C.)?

- A. Mouth B. Stomach C. Small intestine D. Large intestine

41. For a biologist detergent to effectively remove oily and greasy dirt, which of the following enzymes should it contain (2006 E.C.)?

- A. Cellulose B. Protease C. Amylase D. Lipase

42. In the cause of enzymatic chemical reactions, what do you call the substance that is acted up on by on enzyme (2006 E.C.)?

- A. Polypeptide B. Coenzyme C. Vitamin D. Substrate

43. Which of the following is a coenzyme (2007 E.C.)?

- A. NAD B. Systematic errors C. Water D. Proteins

44. Which one of the following substances has a shape which is similar to that of the substrate of an enzyme (2007 E.C.)?

- A. The reaction product B. A competitive inhibitor C. A cofactor D. An allosteric inhibitor

45. Which one of the following terms refers to how fast an enzyme acts on its substrate (2007 E.C.)?

- A. Turn over number B. Enzyme number C. Substrate number D. product number

46. The optimum temperature of enzymes found in thermophilic bacteria is (2007 E.C.)?

- A. Lower than for enzymes in the human body
- B. The same as enzymes found in human body
- C. Higher than enzymes in the human body
- D. Lower than enzymes found in warm blooded animals

47. Which of the following properties of enzymes makes it possible that a single enzyme molecule can act on many substrate molecules (2007 E.C.)?

- A. Enzymes are proteins
- B. Enzymes are reused over and over again
- C. Enzymes lower the activation energy
- D. Enzymes are substrate specific

48. The enzyme that breaks a complex molecule into two products by hydrolysis belongs to class

- A. Hydrolases
- B. Transferases
- C. Ligases
- D. Lyases

49. The enzyme that breaks covalent bonds without hydrolysis

- A. Hydrolases
- B. Transferases
- C. Ligases
- D. Lyases

50. How many classes of enzymes are there in the Enzyme Commission classification?

- A. 3
- B. 4
- C. 5
- D. 6

51. If the rate of the enzyme catalyzed reaction remains constant even when more substrate is added to the reaction, which of the following might be the reason (2007 E.C.)?

- A. Inhibition of enzyme-substrate complex formation
- B. Loss of substrate specificity by the enzyme
- C. Saturation of the enzyme
- D. Inactivation of the enzyme

52. Which part of human alimentary canal contains digestive enzymes that function at acidic pH (2008 E.C.)?

A. Stomach B. Mouth C. Esophagus D. Small intestine

53. According to lock-and-key hypothesis, an enzyme might not be effective?

- A. With a changed shape B. Without heat C. More than once
D. Without ATP

54. In which area of enzyme application is invertase injected to sucrose paste in order to produce liquid chocolate (2008 E.C)?

- A. Detergent making industry C. Pharmaceutical industry
B. Pulp and paper industry D. Food processing industry

55. Which characteristic of RNA makes it suitable for moving out of the nucleus (2008 E.C.)?

- A. Inability to replicate C. its unstable nature
B. Absence of thymine D. Smallness of its size

56. Which one of the following functions at high optimum pH than all the rest (2008 E.C)?

- A. Pepsin B. Pancreatic lipase C. Trypsin D.
Enzymes in stomach

57. Which class of enzymes joins two molecules together by formation of new bonds (2008 E.C)?

- A. Ligase B. Isomerase C. Lyase D.
Hydrolase

58. In enzymes that contain non-protein organic molecules, in addition to the protein component called (2008 E.C) A. Apoenzyme B. Coenzyme C. Holoenzyme D. Cofactor

59. What causes tomato fruits to ripen much more slowly when kept in a refrigerator than if left on a table at room temperature (2008 E.C)?

- A. Low temperature slows the normal action of ripening enzymes
B. Enzymes produced by bacteria normally inhibit ripening
C. Humidity accelerates enzyme activity and ripening process

D. Normal temperature asserts the action of ripening enzymes

60. Among the following factors that affect enzyme activity, which one does NOT cause enzyme denaturation (2009 E.C)?

- A. High pH B. Low pH C. High temperature D.
Competitive inhibitor