# ENZYMES

**Q:1: The catalytic activity of an enzyme is restricted to its small portion called**

(A) Active site
(B) Passive site
(C) Allosteric site
(D) All Choices are correct

**Q:2: An activated enzyme made of polypeptide chain and a co-factor is**

(A) Coenzyme
(B) Substrate
(C) Apoenzyme
(D) Holoenzyme

**Q:3: Koshland in 1959 proposed**

(A) Fluid mosaic model
(B) Induce fit model
(C) Lock and key model
(D) Reflective index model

**Q:4: Enzymes are largely _____ in their chemical nature.**

(A) Lipids
(B) Steroids
(C) Proteinaceous
(D) All A, B and C

**Q:5: Who proposed "lock and key" model to study enzyme – substrate interaction?**

(A) Koshland (1959)
(B) Wilhelm Kuhne (1878)
(C) Fischer (1898)
(D) None of these

**Q:6: In human body the optimum temperature for enzymatic activities is**

(A) 37°C
(B) 40°C
(C) 25°C
(D) 30°C

**Q:7: Optimum pH value for pepsin is**

(A) 5.5
(B) 7.4
(C) 4.1
(D) 1.4

**Q:8: Competitive inhibitors stop an enzyme from working by**

(A) Changing the shape of the enzyme
(B) merging with the substrate instead
(C) blocking the active site of the enzyme
(D) combining with the product of the reaction

**Q:9: The enzymes are sensitive to**

(A) Changes in pH
(B) Changes in temperature
(C) Both A and B
(D) None of these

**Q:10: Enzyme B requires Zn2+ in order to catalyze the conversion of substrate X. The zinc is best identified as a(n):**

(A) Coenzyme
(B) Activator
(C) Substrate
(D) Product

**Q:11: The enzyme minus its coenzyme is referred to as the**

(A) Iso-enzyme
(B) Metalloenzyme
(C) Apoenzyme
(D) All of these

# ENZYMES

**Q:12: The "lock and key" model of enzyme action illustrates that a particular enzyme molecule**

(A) forms a permanent enzyme-substrate complex
(B) may be destroyed and resynthesized several times
(C) interacts with a specific type of substrate molecule
(D) reacts at identical rates under all conditions

**Q:13: Consider this reaction. A + B --> C + D + energy.**

(A) This reaction is exergonic
(B) An enzyme could still speed the reaction
(C) A and B are reactants; C and D are products
(D) All of these are correct

**Q:14: An inhibitor that changes the overall shape and chemistry of an enzyme is known as a(n)**

(A) Auto-steric inhibitor
(B) Competitive inhibitor
(C) Steric inhibitor
(D) Noncompetitive inhibitor

**Q:15: Non-protein components of enzymes are known as**

(A) Coenzymes
(B) Activators
(C) Cofactors
(D) All A, B, and C

**Q:16: The reaction below occurs within the cells to prevent the accumulation of hydrogen peroxide. In this reaction, catalase functions as an**

$$2H_2O_2 \xrightarrow{\text{catalase}} 2H_2O + O_2$$

(A) Enzyme in the breakdown of hydrogen peroxide
(B) Enzyme in the synthesis of hydrogen peroxide
(C) Emulsifier in the digestion of hydrogen peroxide
(D) Indicator in the detection of hydrogen peroxide

**Q:17: An enzyme is generally named by adding _____ to the end of the name of the _____.**

(A) "-ase". coenzyme
(B) "-ase". cell in which it is found
(C) "-ose". substrate .
(D) "-ase". substrate

**Q:18: The minimum amount of energy needed for a process to occur is called the**

(A) Minimal energy theory
(B) Process energy
(C) Kinetic energy
(D) Activation energy

**Q:19: A student conducts an experiment to test the efficiency of a certain enzyme. Which would probably not result in a change in the enzyme's efficiency?**

(A) Adding an acidic solution to the setup
(B) Adding more substrate but not enzyme
(C) Increasing temperature of solution
(D)All a, b, & c change enzyme's efficiency

**Q:20: Enzymes function as**

(A) Organic catalysts
(B) Inorganic catalysts
(C) Inhibitors
(D) All of these

# ENZYMES

**Q:21: A catalyst is a chemical involved in, but not _____ by, a chemical reaction.**

(A) Supported
(B) Changed
(C) Controlled
(D) All of these

**Q:22: Many enzymes function by _____ the activation energy of reactions.**

(A) Increasing
(B) Promoting
(C) Lowering
(D) Both A and B

**Q:23: An uncatalysed reaction requires a**

(A) Higher activation energy
(B) Lower activation energy
(C) Balanced activation energy
(D) All of these

**Q:24: It suggests that the binding of the substrate to the enzyme alters the structure of the enzyme, placing some strain on the substrate and further facilitating the reaction.**

(A) Lock and Key hypothesis
(B) Induced fit hypothesis
(C) Fischer's hypothesis
(D) D.D. Wood's hypothesis

**Q:25: They are non-protein organic molecules bound to enzymes near the active site.**

(A) Activators
(B) Coenzymes
(C) Holoenzymes
(D) All of these

**Q:26: The first step in any reaction catalysed by an enzyme is the formation of a specific association between the molecules called an**

(A) Enzyme-product complex
(B) Enzyme-intermediate complex
(C) Enzyme-substrate complex
(D) None of these

**Q:27: The function of competitive inhibitors is defined by their ability to interact or bind to**

(A) The active site of an enzyme
(B) Regulatory sub-units of an enzyme
(C) Non-competitive inhibitor
(D) Enzyme cofactors

**Q:28: If an enzyme solution is saturated with substrate, the most effective way to obtain an even faster yield of products would be**

(A) Add more of the enzymes
(B) Add more substrate
(C) Add an allosteric inhibitor
(D) Add a non-competitive inhibitor

**Q:29: During _____ the final product of a metabolic pathway turn off the first step of metabolic pathway.**

(A) Positive feed back
(B) Negative feed back
(C) Competitive feed back
(D) Both A and C

**Q:30: _____ occurs when the inhibitory chemical, which does not have to resemble the substrate, binds to the enzyme other than at the active site.**

(A) Noncompetitive Inhibition
(B) Competitive Inhibition
(C) Uncatalysed reaction
(D) All A, B and C

**Q:31: Which one is not attribute of enzyme**

(A) Specific in nature
(B) Protein in chemistry
(C) Consumed in reaction
(D) Increases rate of reaction

**Q:32: Which one inactivates an enzyme by indirectly changing the shape of the active site of an enzyme**

(A) Non-competitive inhibitor
(B) Competitive inhibitor
(C) Coenzyme
(D) Activator

**Q:33: The enzymes are classified into**

(A) Five groups
(B) Three groups
(C) Six groups
(D) Four groups

**Q:34: Non-proteinaceous part of holoenzyme is**

(A) Prosthetic group
(B) Apoenzyme
(C) Tubulin
(D) None of these

**Q:35: Enymes are highly specific for a given substrate which is due to the shape of their**

(A) Active site
(B) Allosteric site
(C) Non-competitive site
(D) None of these

**Q:36: The name enzyme was suggested in 1878 by the German physiologist**

(A) Wilhelm Kuhne
(B) Koshland
(C) Fischer
(D) Paul Filder

**Q:37: Proteinaceous part of holoenzyme is**

(A) Prosthetic group
(B) Apoenzyme
(C) Lecithin
(D) None of these

**Q:38: The "lock and key hypothesis" attempts to explain the mechanism of**

(A) vacuole formation
(B) pinocytosis
(C) sharing of electrons
(D) enzyme specificity

**Q:39: An enzyme that hydrolyzes protein will not act upon starch. This fact is an indication that enzymes are**

(A) hydrolytic
(B) specific
(C) catalytic
(D) synthetic

**Q:40: The site where enzyme catalyzed reaction takes place is called?**

(A) Active site
(B) Allosteric site
(C) Denatures site
(D) Dead Site

**Q:41: What is a cofactor?**

(A) Inorganic ions
(B) Organic molecules
(C) Both a and b
(D) None of the above

**Q:42: Mg+2 is an inorganic activator for the enzyme**

# ENZYMES

(A) Phosophatase
(B) Carbonic anhydrase
(C) Enterokinase
(D) Amylase

**Q:43: Zn+2 is an inorganic activator for enzyme.**

(A) Carbonic anhydrase
(B) Phosophatase
(C) Chymotrypsin
(D) Maltase

**Q:44: Which antibiotic blocks the active site of an enzyme that many bacteria used to make cell-walls.**

(A) Amphotericin
(B) Gentamicin
(C) Penicillin
(D) Cephalosporin

**Q:45: DDT and Parathion are inhibitors of key enzymes in**

(A) Nervous system
(B) Respiratory system
(C) Digestive system
(D) Circulatory system

**Q:46: At high temperature the rate of enzyme action decreases because the increased heat**

(A) Changes the pH of the system
(B) Alters the active site of the enzyme
(C) Neutralize acids and bases in the system
(D) Increases the concentration of enzymes

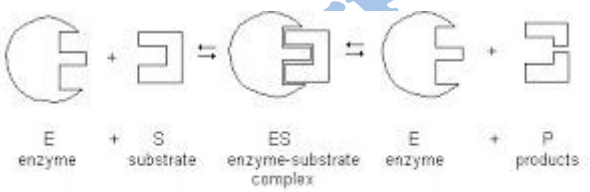
**Q:47: Which of the following enzymes would digest a fat?**

(A) sucrase
(B) protease
(C) Ligase
(D) lipase

**Q:48: In the Lock and Key model of enzyme action, the part of the enzyme that recognizes the substrate is known as the**

(A) Enzyme-substrate complex
(B) Product
(C) Enzyme-product complex
(D) Active site

**Q:49: Which model of enzyme action is represented in this diagram.**




(A) Fluid mosaic model
(B) Induce fit model
(C) Lock and key model
(D) Reflective index model

**Q:50: A certain enzyme will hydrolyze egg white but not starch. Which statement best explains this observation?**

(A) Starch molecules are too large to be hydrolyzed
(B) Enzyme molecules are specific in their actions
(C) Egg white acts as a coenzyme for hydrolysis
(D) Starch is composed of amino acids.

**Q:51: At about 0 C, most enzymes are**

(A) Inactive
(B) Active
(C) Destroyed
(D) Replicated

**Q: 52: Vitamins are essential to the survival of organisms because vitamins usually function as**

# ENZYMES

(A) Substrates
(B) Nucleic acids
(C) Co-enzymes
(D) Nucleosides

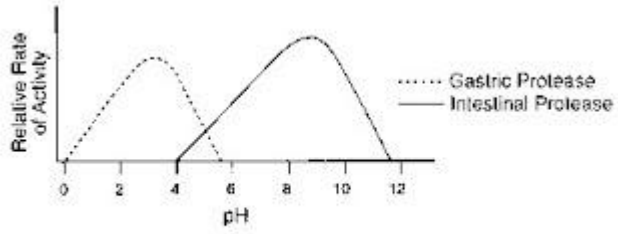
**Q:53:When a molecule binds to an area of an enzyme that is not the active site, and changes the shape of the enzyme so that it no longer can work, this is called**

(A) denaturation
(B) competitive inhibition
(C) noncompetitive inhibition
(D) substrate delocation

**Q:54: What is a coenzyme?**

(A) Inorganic ion
(B) Organic molecule
(C) Both A and B
(D) None of these

**Q:55: Which statement best expresses the information represented in the graph shown?**

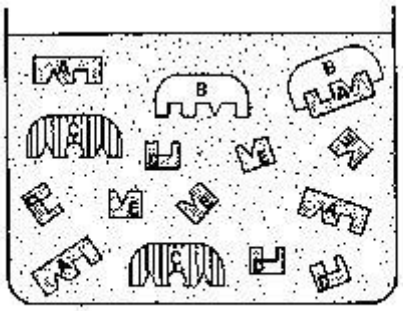



(A) The action of enzymes varies with pH
(B) A pH of 7 provides the optimum environment for digestive enzymes
(C) Gastric juice is active at a pH extending from 0 to 12
(D) Acids have a pH greater than 7

**Q:56: Which type of inhibitor is shown in this diagram?**

(A) Competitive
(B) Non-competitive
(C) Allosteric
(D) Both B and C

**Q:57: Which enzyme represents an enzyme functioning in this reaction?**



(A) E
(B) C
(C) B
(D) A

**Q:58: Enzyme which converts Starch into Maltose:**

(A) Zymase

(B)Lipase

(C)Maltase

(D)Sucrose

**Q:59: Correct statement for enzyme's activity at 100°C is:**

(A) Activity is reduced to minimum

(B) Activity is accelerated

(C) Enzymes are destroyed

(D) Enzymes shape becomes changed

# ENZYMES

**Q:60: Name of enzyme found in liver:**

(A) Cellulase

(B) Astrase

(C) Zymase

(D) Catalase

## Answer Key

1.A

2.D

3.B

4.C

5.C

6.A

7.D

8.C

9.C

10.B

11.C

12.C

13.D

14.D

15.D

16.A

17.D

18.D

19.D

20.A

21.B

22.C

23.A

24.B

25.B

26.C

27.A

28.A

29.B

30.A

31.C

32.A

33.C

34.A

# ENZYMES

35.A

36.A

37.B

38.D

39.B

40.A

41.C

42.A

43.A

44.C

45.A

46.B

47.D

48.D

49.C

50.B

51.A

52.C

53.C

54.B

55.A

65.D

57.C

59.C

60.D