

Founders :
Muhammad Kamran
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Motto :
“We are saviour of nation.”



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- 1) All enzymes are:

A) Fibrous proteins	C) Pure proteins
B) Conjugated proteins	D) Globular proteins

A B C D

- 2) Both _____ and _____ are detachable cofactors:

A) Apo-enzyme, holoenzyme
B) Activator, coenzyme
C) Co-enzyme, prosthetic group
D) Prosthetic group, activator

A B C D

- 3) Inorganic ions can play a role of _____ in enzyme catalysis:

A) Coenzyme	C) Apo enzyme
B) Inhibitor	D) Cofactor

A B C D

- 4) When apoenzyme is removed from enzyme the _____ is left?

A) Enzyme	C) Holoenzyme
B) Co-enzyme	D) Co-factor

A B C D

- 5) If non-protein part is covalently bonded to the protein part of enzyme, it is called:

A) Co-enzyme	C) Activator
B) Prosthetic group	D) Co-factor

A B C D

- 6) Enzymes cannot work in:

A) Aqueous medium	C) Acidic medium
B) Dry medium	D) Alkaline medium

A B C D

- 7) According to the induced fit model of enzyme action:

A) Enzyme induces changes in substrate structure
B) Substrate induces changes in enzyme structure
C) Active site of enzyme is a rigid structure
D) Active site of enzyme is used as a template

A B C D

- 8) Enzyme works to its maximum capacity:

A) At high temperature	C) At moderate temperature
B) At low temperature	D) At optimum Temperature

A B C D

- 9) For most of the enzymes of human body, the optimum temperature is:

A) 37 C°	C) 37 F°
B) 35 C°	D) 98.6 C°

A B C D

- 10) Following substances can act as inhibitors, EXCEPT:

A) Cyanide	C) Antibodies
B) Antimetabolites	D) Poisons

A B C D

11) Succinic acid differs from malonic acid with respect to:

- A) One carbon and two hydrogen atoms
- B) Two carbons and one hydrogen atom
- C) One carbon and one hydrogen atom
- D) Two carbons and two hydrogen atoms

A B C D

12) The enzyme that works best at intermediate pH is:

- A) Pepsin
- B) Chymotrypsin
- C) Sucrase
- D) Pancreatic lipase

A B C D

13) The competitive inhibitor competes with:

- A) Enzyme
- B) Cofactor
- C) Substrate
- D) Co-enzyme

A B C D

14) The rate of enzyme action will be minimum at:

- A) Optimum pH
- B) Optimum temperature
- C) Optimum conditions
- D) Maximum temperature

A B C D

15) An enzyme, that undergoes reversible changes in shape and in catalytic activity when "Control" substances bind is called:

- A) Apoenzyme
- B) Allosteric enzyme
- C) Holoenzyme
- D) Co-enzyme

A B C D

16) Nicotinamide adenine dinucleotide (NAD) is an example of:

- A) Cofactor
- B) Coenzyme
- C) Prosthetic group
- D) Nucleotide

A B C D

17) Which one of the following acts as a bridge between enzyme and substrate?

- A) Activator
- B) Co-factor
- C) Prosthetic group
- D) Apo-enzyme

A B C D

18) Sometimes, _____ provides a source of chemical energy, helping to drive reaction:

- A) Co-factor
- B) Co-enzyme
- C) Enzyme
- D) Active site

A B C D

19) _____ form the raw material for coenzymes:

- A) Nucleic acid
- B) Lipids
- C) Vitamins
- D) Proteins

A B C D

20) Many enzymes are simply dissolved in the:

- A) Nucleoplasm
- B) Stroma of chloroplast
- C) Cytoplasm
- D) Matrix of mitochondria

A B C D

21) An activated enzyme consisting of polypeptide and cofactor is known as:

- A) Activator
 B) Apoenzyme
 C) Holoenzyme
 D) Coenzyme

A B C D

22) Formation of ES complex activates the _____ site of enzyme:

- A) Active
 B) Binding
 C) Catalytic
 D) Allosteric

A B C D

23) Optimum pH of all human enzymes is:

- A) Variable
 B) Same
 C) Acidic
 D) Alkaline

A B C D

24) At high substrate level all the active sites of enzyme are:

- A) Destroyed
 B) Degenerated
 C) Available
 D) Occupied

A B C D

25) A chemical substance which can react with enzyme, in place of substrate, but cannot be transformed into products is called:

- A) Substrate
 B) Inhibitor
 C) ES
 D) Product

A B C D

26) _____ can be checked by increasing substrate concentration:

- A) Reversible inhibition
 B) Irreversible inhibition
 C) Non-competitive inhibition
 D) Competitive inhibition

A B C D

27) The inhibitor having structural similarity with substrate is:

- A) Irreversible inhibitors
 B) Reversible inhibitors
 C) Competitive inhibitor
 D) Non-competitive inhibitors

A B C D

28) Which one of the following enzymes have slightly acidic pH as optimum pH?

- A) Sucrase
 B) Enterokinase
 C) Pepsin
 D) Catalase

A B C D

29) By adding _____ in neutral pH, we get the optimum pH of pancreatic lipase:

- A) 1
 B) 2
 C) 3
 D) 4

A B C D

30) Flavin adenine dinucleotide is a:

- A) Prosthetic group
 B) Activator
 C) Co-enzyme
 D) Inhibitor

A B C D

31) Evaporation of two ml out of one litre of water, lowers the temperature of remaining 998 ml by:

- A) 1 °C C) 3 °C
B) 2 °C D) 4 °C

- A B C D

32) The specific heat of vaporization of water is:

- A) 998 kcal/kg C) 574 kcal/kg
B) 998 cal/kg D) 574 cal/kg

- A B C D

33) Human tissues contain about twenty percent water in:

- A) Bone cells C) Nerve cells
B) Brain cells D) Muscle cells

- A B C D

34) When temperature of one gram of water is raised by one degree Celsius:

- A) One calorie heat energy is used
B) One kilocalorie heat energy is used
C) Two calorie heat energy is used
D) Two kilocalorie heat energy is used

- A B C D

35) Living beings use _____ as a temperature stabilizer:

- A) Water C) Proteins
B) Lipids D) Carbohydrates

- A B C D

36) Enzymes have no effect on:

- A) Nature and properties of end products
B) Nature and properties of reactants
C) Speed of biochemical reaction
D) Efficiency of biochemical reactions

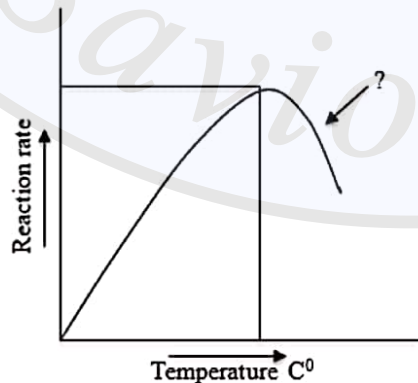
- A B C D

37) At low conc. of substrate the reaction rate is directly proportional to the:

- A) Enzyme available C) Substrate available
B) Product available D) Inhibitor available

- A B C D

38) Pick up the correct label of the site of graph indicated by '?'

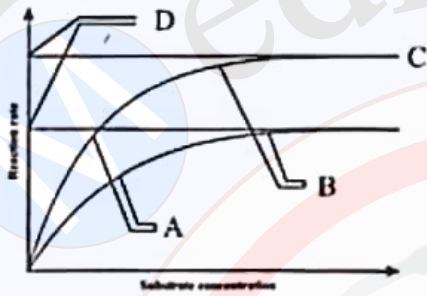


- A) Optimum temperature
B) Denaturation of enzyme
C) Normal curve for inorganic reactions
D) Rate doubles for each increase in temperature

- A B C D

- 39) Competitive inhibitors are:**
 A) Reversible C) Smaller
 B) Irreversible D) Larger
 A B C D
- 40) They alter the structure of the enzyme in such a way that even if genuine substrate binds the active site, catalysis fails to take place temporarily:**
 A) Irreversible inhibitors
 B) Reversible inhibitors
 C) Competitive inhibitors
 D) Non-competitive inhibitors
 A B C D
- 41) Catalase and chymotrypsin have similar:**
 A) Substrate C) Optimum pH
 B) Product D) Metabolic impact
 A B C D
- 42) A detachable cofactor having carbon and hydrogen simultaneously is called:**
 A) Coenzyme C) Prosthetic group
 B) Activator D) Apoenzyme
 A B C D
- 43) The rate of enzyme controlled reactions may increase:**
 A) With increasing temperature
 B) With increasing pH
 C) With decreasing temperature
 D) With decreasing pH
 A B C D
- 44) Succinic acid dehydrogenase + Succinic acid and high concentration of malonic acid → ?**
 A) Malic acid C) No reaction
 B) Fumaric acid D) Oxalic acid
 A B C D
- 45) Potentially damaging enzymes are produced in:**
 A) Active form C) Abundant quantity
 B) Inactive form D) Minor quantity
 A B C D
- 46) Which one is potentially damaging enzyme?**
 A) Pepsin C) Ptyalin
 B) Amylopsin D) Lipase
 A B C D
- 47) $A \rightarrow B \rightarrow C \rightarrow D \rightarrow E$ Deficiency of "E" will control the above pathway through:**
 A) Feedback mechanism C) Positive feedback
 B) Feedback activation D) Feedback inhibition
 A B C D
- 48) The detachable cofactor is known as:**
 A) Prosthetic group C) Holoenzyme
 B) Apoenzyme D) Activator
 A B C D

49) What is being indicated by 'C' in following figure?



- A) Active sites still available
- B) Semi saturation of enzyme
- C) Saturation of enzyme
- D) Maximum rate of enzyme action

- A
 B
 C
 D

50) The active site of enzyme is made up of:

- A) Two definite regions
- B) Three definite regions
- C) Four definite regions
- D) Numerous definite regions

- A
 B
 C
 D

- 51) Chymotrypsin works efficiently at:
 A) Acidic pH
 B) Alkaline pH
 C) Minimum pH
 D) Moderate pH
 A B C D
- 52) Efficiency of a biochemical reaction is increased by:
 A) Hormones
 B) Enzymes
 C) Coenzymes
 D) Cofactors
 A B C D
- 53) Enzymes _____ the activation energy of the biochemical reactions:
 A) Lower
 B) Increase
 C) Maintain
 D) Multiply
 A B C D
- 54) Both enzymes and coenzymes are:
 A) Inorganic
 B) Reused
 C) Derived from vitamins
 D) Globular proteins
 A B C D
- 55) Enzymes associated with aerobic respiration are found in:
 A) Mitochondria
 B) Chloroplast
 C) Cytoplasm
 D) Ribosomes
 A B C D
- 56) The _____ of the enzyme is made up of two definite regions:
 A) Active site
 B) Binding site
 C) Catalytic site
 D) Allosteric site
 A B C D
- 57) According to lock and key model, there is no modification in the active site:
 A) Before enzyme action
 B) After enzyme action
 C) During enzyme action
 D) Before, during and after enzyme action
 A B C D
- 58) If substrate concentration is unlimited, rate of enzyme action becomes:
 A) Inversely proportional to enzyme concentration
 B) Directly proportional to enzyme concentration
 C) Directly proportional to substrate concentration
 D) Inversely proportional to substrate concentration
 A B C D
- 59) Optimum pH for digestive enzymes of stomach is:
 A) Highly acidic
 B) Highly alkaline
 C) Slightly acidic
 D) Slightly alkaline
 A B C D
- 60) Transformation of substrate into products is catalyzed by:
 A) Activated catalytic site
 B) Activated active site
 C) Activated binding site
 D) Activated allosteric site
 A B C D

61) _____ form an enzyme inhibitor complex at a point other than active site:

- A) Irreversible inhibitors C) Competitive inhibitors
 B) Reversible inhibitors D) Non-competitive inhibitors

- A B C D

62) Pick up a product of succinic acid dehydrogenase:

- A) Succinic acid C) Malonic acid
 B) Fumaric acid D) Malic acid

- A B C D

63) The optimum pH value for arginase is _____ than that of pancreatic lipase:

- A) Highly greater C) Highly lesser
 B) Slightly greater D) Slightly lesser

- A B C D

64) Malonic acid makes an enzyme-inhibitor complex with:

- A) Hydrogenase enzyme C) Carboxylase enzyme
 B) Oxidase enzyme D) Dehydrogenase enzyme

- A B C D

65) Following are the properties of enzymes, EXCEPT:

- A) They are biological catalysts
 B) They initiate biochemical reactions
 C) They are highly efficient
 D) They are sensitive to changes in pH

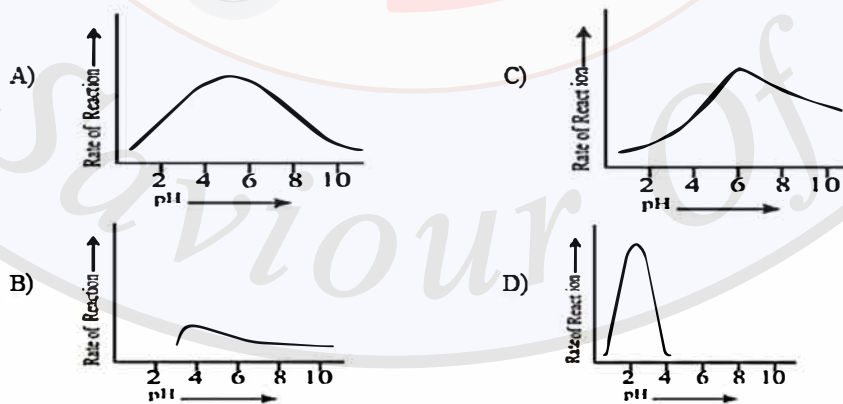
- A B C D

66) Some enzymes require _____ for their proper functioning:

- A) Optimum temperature C) Optimum pH
 B) Co factor D) Aqueous medium

- A B C D

67) Which one of the following graphs shows the effect of pH on the rate of reaction catalyzed by pepsin?



- A B C D

68) Malonic acid competes for:

- A) Succinic acid C) Acetic acid
 B) Fumaric acid D) Dehydrogenase

- A B C D

69) Zn^{2+} can play a role of _____ in enzyme catalysis:

- A) Activator C) Coenzyme
B) Prosthetic group D) Apoenzyme

A B C D

70) An enzyme with its co-enzyme or prosthetic group, is designated as:

- A) Apoenzyme C) Holoenzyme
B) Coenzyme D) Co-factor

A B C D

71) The enzymes which are integral part of ribosomes are involved in:

- A) Ribosome synthesis C) Lipid synthesis
B) Protein synthesis D) Carbohydrate synthesis

A B C D

72) ES formation is facilitated by:

- A) Active site C) Catalytic site
B) Binding site D) Allosteric site

A B C D

73) According to the Lock and Key model which one of the following is a lock?

- A) Co-enzyme C) Substrate
B) Enzyme D) Inhibitor

A B C D

74) _____ the reaction rate is directly proportional to the enzyme available:

- A) At high temperature C) At low conc. of substrate
B) At low conc. of enzyme D) At high conc. of enzyme

A B C D

75) Enzyme is denatured when temperature is increased beyond:

- A) Minimum range C) Optimum range
B) Maximum range D) Moderate range

A B C D

76) If the inhibitor is _____, enzyme will be rendered useless forever:

- A) Competitive C) Reversible
B) Non-competitive D) Irreversible

A B C D

77) A competitive inhibitor competes with substrate for same active site, but the competition is always won by that which is:

- A) Complementary to active site
B) Complementary to enzyme
C) More in concentration
D) Larger in size

A B C D

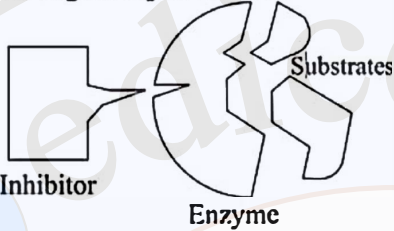
78) Succinate is converted into fumarate by losing two:

- A) Hydrogen atoms C) H_2O molecules
B) Carbon atoms D) Oxygen atoms

A B C D

- 79) Active site of enzymes consists of:
 A) Bulk of amino acids C) Numerous amino acids
 B) A few amino acids D) A lot of amino acids
- A B C D

- 80) Non-protein part of enzymes is called:
 A) Accelerator C) Prosthetic group
 B) Cofactor D) Apoenzyme
- A B C D

- 81) This figure represents the:
- 
- Inhibitor**
Enzyme
Substrates

- A) Non-competitive inhibitor
 B) Competitive inhibitor
 C) Irreversible inhibitor
 D) Reversible inhibitor

- A B C D

- 82) Plants and animals produce cooling by:
 A) Perspiration C) Transpiration
 B) Evaporation D) Oxidation

- A B C D

- 83) Great ability of absorbing heat with minimum change in temperature is held by:

- A) Water C) Carbohydrates
 B) Fats D) Proteins

- A B C D

- 84) Water is excellent solvent for:

- A) Non-polar substances
 B) Polar substances
 C) Non-ionic substances
 D) Hydrophobic substances

- A B C D

- 85) Heat of vaporization is expressed as:

- A) Calories absorbed per gram vaporized
 B) Kilocalories absorbed per gram vaporized
 C) Calories released per gram vaporized
 D) Kilocalories released per gram vaporized

- A B C D

- 86) An activated enzyme consisting of polypeptide chain and a cofactor is known as:

- A) Apoenzyme C) Co-enzyme
 B) Holoenzyme D) Pseudo enzyme

- A B C D

- 87) Pepsin is required to be active:

- A) Inside the cells C) Inside the oral cavity
 B) Outside the cells D) Outside the stomach

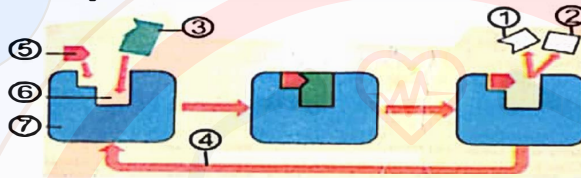
- A B C D

- 88) If the enzyme conc. is kept constant, by increasing the substrate concentration the rate of enzyme action is:
- A) Never increased C) Increased forever
 B) Decreased D) Increased for specific time
- A B C D

- 89) If the vibrations become too violent, globular structure, essential for enzyme activity is lost and the enzyme is said to be:
- A) Activated C) Denatured
 B) Slowed down D) Freeze
- A B C D

- 90) Competitive inhibitors are:
- A) Homologous to substrate C) Smaller than substrate
 B) Analogous to substrate D) Larger than substrate
- A B C D

- 91) Pick up the cofactor:



- A) 2 C) 4
 B) 3 D) 5
- A B C D

- 92) The cofactor usually acts as a bridge between:
- A) Enzyme and its product
 B) Substrate and catalytic site
 C) Enzyme and its substrate
 D) Product and catalytic site
- A B C D

- 93) Who recognized the active site of enzyme as a rigid structure?
- A) Emil Fischer C) Beadle and Tatum
 B) Koshland D) Payen and Persoz
- A B C D

- 94) When reactants move more quickly and chances of their collision with each other are increased and as a result the rate of enzyme controlled reaction will:
- A) Decrease initially C) Increase for ever
 B) Increase initially D) Decrease for ever
- A B C D

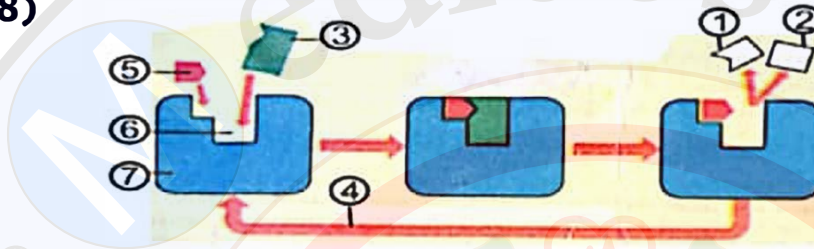
- 95) During enzyme catalysis _____ and _____ remain unaltered:
- A) Enzyme and coenzyme C) Substrate and coenzyme
 B) Enzyme and substrate D) Substrate and cofactor
- A B C D

- 96) $A \rightarrow B \rightarrow C \rightarrow D \rightarrow E$
 Accumulation of "E" will control the above pathway through:
- A) Feedback mechanism C) Positive feedback
 B) Feedback activation D) Feedback inhibition
- A B C D

97) Optimum pH of _____ coincides with that of _____:
 A) Pepsin, Sucrase
 B) Sucrase, Enterokinase
 C) Enterokinase, Catalase
 D) Catalase, Chymotrypsin

- A B C D

98) Which one is substrate:



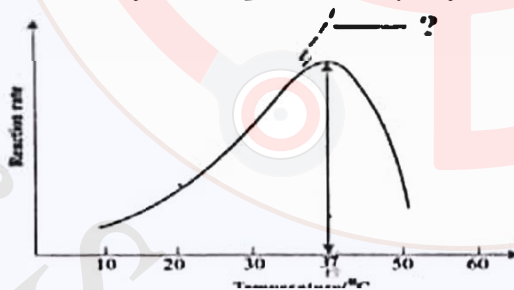
- A) 6
 B) 5
 C) 4
 D) 3

- A B C D

99) The enzyme that works at slightly alkaline pH is:
 A) Lipase
 B) Catalase
 C) Arginase
 D) Amylase

- A B C D

100) Label the figure at point carrying '?' mark:



- A) Normal curve for organic reaction
 B) Normal curve for inorganic reaction
 C) Abnormal curve for inorganic reaction
 D) Rate achieved by optimum temperature

- A B C D

Medicos Hub Bio Test #2 Key

Key

1.	D	17.	B	33.	A	49.	C	65.	B	81.	A	97.	D
2.	B	18.	A	34.	A	50.	A	66.	B	82.	B	98.	D
3.	D	19.	C	35.	A	51.	D	67.	D	83.	A	99.	B
4.	D	20.	C	36.	A	52.	B	68.	D	84.	B	100.	B
5.	B	21.	C	37.	C	53.	A	69.	A	85.	A	101.	
6.	B	22.	C	38.	B	54.	B	70.	C	86.	B	102.	
7.	B	23.	A	39.	A	55.	A	71.	B	87.	B	103.	
8.	D	24.	D	40.	D	56.	A	72.	B	88.	D	104.	
9.	A	25.	B	41.	C	57.	D	73.	B	89.	C	105.	
10.	C	26.	A	42.	A	58.	B	74.	B	90.	A	106.	
11.	A	27.	C	43.	A	59.	A	75.	B	91.	D	107.	
12.	B	28.	B	44.	C	60.	A	76.	D	92.	C	108.	
13.	C	29.	B	45.	B	61.	D	77.	C	93.	A	109.	
14.	D	30.	C	46.	A	62.	B	78.	A	94.	B	110.	
15.	B	31.	A	47.	B	63.	B	79.	B	95.	A	111.	
16.	B	32.	C	48.	D	64.	D	80.	B	96.	D	112.	