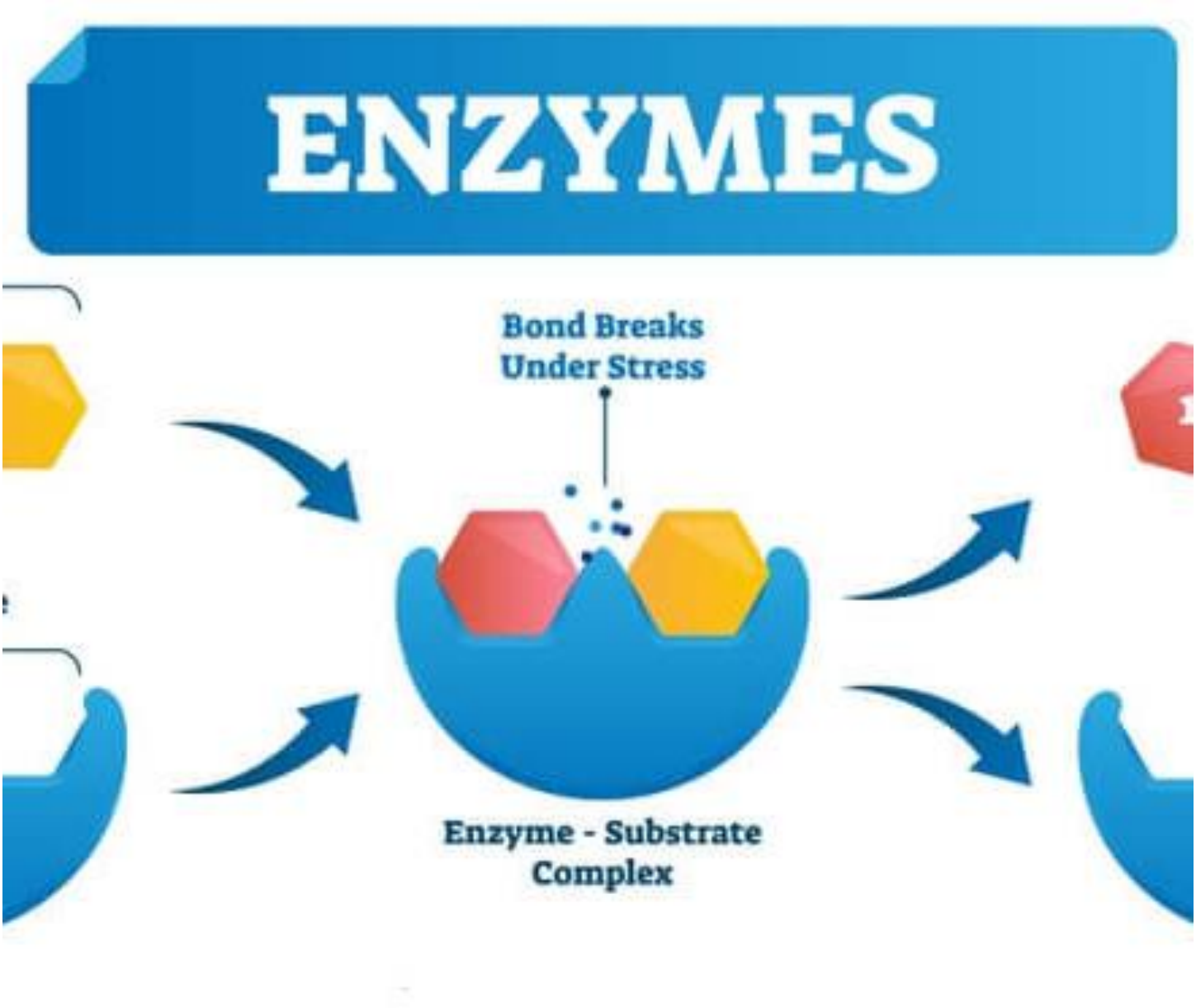


# Clinical Enzymology

A MCQ Collection of Clinical Enzymes

Vikas Bhardwaj 1/1/24 Biochemistry

# Introduction

Welcome to **Clinical Enzymology MCQ**, a comprehensive question bank designed to enhance your understanding of microbiology. This ebook contains over 250+ multiple-choice questions (MCQs) covering a wide array of topics within the field of clinical enzymes.

Whether you're a medical student preparing for exams, a postgraduate aspirant aiming for success in competitive entrance tests, or a healthcare professional looking to refine your expertise, this book will serve as an invaluable resource in your learning journey. The questions in this ebook are structured to reflect the patterns seen in major medical entrance exams such as NEET PG, USMLE, AIIMS, and others, making it a perfect tool for self-assessment and revision.

**Purpose**

The primary goal of this ebook is to provide a reliable and extensive resource that students and professionals can use to test their knowledge, improve their diagnostic skills, and solidify key microbiological concepts. With the included detailed answers and explanations, this book goes beyond just helping you answer questions — it enables you to understand the reasoning behind each answer, facilitating deeper learning.

**How This Ebook Can Help You**

- **For Students**: The MCQs in this book are designed to match the rigor and format of real exam questions. By practicing regularly, you'll not only enhance your knowledge but also gain confidence in approaching exam challenges.
- **For Professionals**: This ebook helps professionals stay updated with the latest developments in clinical microbiology and refresh critical concepts required in day-to-day practice.
- **For Educators**: Teachers and educators can use this collection to formulate quizzes, exams, or as supplementary teaching material for their students.

**Compilation and Sources**

This ebook is a compilation of publicly available online content. Each question has been carefully selected and curated to ensure relevance and accuracy. While this material is sourced from multiple platforms, it has been reorganized and edited to provide a streamlined learning experience.

We hope this book becomes an essential part of your academic and professional toolkit, helping you achieve your goals in Biochemistry.

# Copyright Page

**Clinical Enzymology MCQ**
Compiled and Published by Vikas Bhardwaj /medicalmcq.in




**Sources of Content**

This ebook is a compilation of multiple-choice questions (MCQs) sourced from various publicly available online resources. The content has been carefully selected, curated, and edited to provide a comprehensive learning experience for medical students and professionals. Although the MCQs have been adapted and reorganized for educational purposes, we acknowledge that the original sources of the information remain in the public domain.

No part of this ebook is intended to infringe on any copyright or proprietary rights of the original authors or content providers. All references to publicly available materials, including textbooks, websites, journals, and other online content, are provided in compliance with fair use principles for the purpose of education, scholarship, and research.

**Disclaimer**

While every effort has been made to ensure the accuracy and reliability of the information contained within this ebook, the publisher and author assume no responsibility for errors, omissions, or inconsistencies. The content is provided "as is" and is intended solely for educational purposes. Users are encouraged to verify any information independently before relying on it for professional practice or exam preparation.

By using this ebook, the reader agrees to hold the publisher and author harmless from any claims, damages, or liability arising from its use.

For inquiries regarding permissions, please contact:
MedicalMCQ.in

# Questions

1-: Which of the following is non-competitive inhibitor of intestinal alkaline phosphatase?

1: L-Alanine

2: L-Tyrosine

3: L-Tryptophan

4: L-Phenylalanine

2-: Which enzyme converts Testosterone to dihydroxytestosterone?

1: Aromatase

2: 5 a reductase

3: 5 a hydroxylase

4: 7 a hydroxylase

3-: Cyanide affects respiratory chain by

1: Non-competitive reversible inhibition

2: Competitive reversible inhibition

3: Suicide irreversible inhibition

4: Non-competitive irreversible inhibition

4-: Marble bone disease, characterized by increase in bone density is due to mutation in the gene encoding:

1: Carbonic Anhydrase I

2: Carbonic Anhydrase II

3: Carbonic Anhydrase III

4: Carbonic Anhydrase IV

5-: Cell shape and motility are provided by

1: Microfilaments

2: Microtubules

3: Golgi apparatus

4: Mitochondria

6-: Enzyme use in ELISA -

1: Alkaline phosphatase

2: Acid phosphatase

3: Glucosidase

4: Glycosyl transferase

7-: Which of the following liver enzymes is predominantly mitochondrial?

1: SGOT (AST)

2: SGPT (ALT)

3: GGT

4: 5' Nucleotidase

8-: Substrate level phosphorylation is seen in reaction catalyzed by which enzyme of citric acid cycle?

1: Pyruvate kinase

2: Succinate thiokinase

3: Phosphoglycerate kinase

4: All of the above

9-: A solution contains 2x10-3 mol/L of a weak acid (pK=3.5) and 2x10-3 mol/L of its conjugate base. Its pH is best approximated by which one of the following?

1: 4.1

2: 3.9

3: 3.5

4: 3.1

10-: One of the following groups of enzymes does not exhibit stereospecificity

1: Oxidoreductases

2: Isomerases

3: Lyases

4: Transferases

11-: Which of the following enzymes is stable at acidic pH?

1: Pepsin

2: Trypsin

3: Chymotrypsin

4: Carboxypeptidase

12-: Function of coenzyme is to

1: Enhance the specificity of apoenzyme

2: Accept one of the cleavage products

3: Activate the substrate

4: Increase the active sites of apoenzyme

13-: Which of the following flipped pattern of LDH is seen in myocardial infarction:

1: LDH 1>2

2: LDH 2> 1

3: LDH 3>4

4: LDH 5> 4

14-: Treatment of Multiple Carboxylase deficiency is

1: Biotin

2: Pyridoxine

3: Thiamine

4: Folic acid

15-: Hexokinase is

1: Ligase

2: Transferase

3: Oxidoreductase

4: Reductase

16-: The blood-brain barrier is formed by

1: Oligodendrocytes

2: Astrocytes

3: Microglial cells

4: Schwann cells

17-: Erythrocyte transketolase activity is seen in which vitamin?

1: Riboflavin

2: Thiamine

3: Folic acid

4: Niacine

18-: Marker of lysosome is: (Repeat)

1: Acid Phosphatase

2: Lactate dehydrogenase

3: Oxidase

4: Na K ATPase

19-: Chymotrypsinogen is a:

1: Transaminase

2: Carboxypeptidase

3: Clot lysing protein

4: Zymogen

20-: Alkaline phosphatase contains

1: Cobalt

2: Zinc

3: Iron

4: Copper

21-: Unit of enzyme activity -

1: Millimoles / lit

2: Milligm/lit

3: Mg/dl

4: Micromoles/min

22-: Non-enzymatic linkage of glucose with haemoglobin is known as

1: Glycation

2: Glycosylation

3: Glycogenation

4: Glycerol kinase

23-: Carboxypeptidase contains which mineral?

1: Copper

2: Zinc

3: Iron

4: None

24-: An enzyme-catalyzed reaction was carried out with the initial substrate concentration 1,000 times greater than the Km for that substrate. After 9 minutes, 1% of the substrate had been conveed to the product, and the amount of product was 12 mmol. If, in a separate experiment, one-third as much enzyme and twice as much of the substrate is combined, how long it would to take for the same amount (12 mmol) of product to be formed?

1: 13.5 mins

2: 27 mins

3: 8 mins

4: 9 mins

25-: Pyridoxal phosphate acts as the coenzyme for the following except

1: Alanine transferase

2: Tranketolase

3: ALA Synthase

4: Cystathionine Synthase

26-: Which of the following is a function of mixed oxidase enzyme?

1: Incorporates H+

2: Incorporates 1 atoms of oxygen

3: Incorporates both atoms of oxygen

4: Incorporates nitrogen also

27-: Type of enzyme inhibition in which Vmax remains the same but Km is increased -

1: Non-competitive

2: Competitive

3: Allosteric

4: None

28-: Enzyme specificity is given by -

1: Km

2: Vmax

3: Both

4: None

29-: Aspirin irreversibly inhibits the following enzyme in the formation of eicosanoids:

1: Lipoxygenase

2: Cyclooxygenase

3: Phospholipase-A2

4: Peroxidase

30-: PKF-I Inhibitor

1: AMP

2: Citrate

3: Glucose 6 phosphate

4: Insulin

31-: Km of an enzyme is:

1: Dissociation constant

2: The normal physiological substrate concentration

3: The substrate concentration that produces half maximum velocity

4: Numerically identical for all isozymes that catalyze a given reaction

32-: The following Flipped pattern of LDH blood levels are seen in Myocardial infarction:

1: LDH1>LDH3

2: LDH3>LDH1

3: LDH2>LDH1

4: LDH1>LDH2

33-: Substance which binds to substrate other than catalytic enzyme is

1: Competitive inhibitor

2: Non-competitive inhibitor

3: Reversible inhibitor

4: None of the above

34-: Example of enzyme specificity:

1: Stereo specificity

2: Reaction specificity

3: Substrate specificity

4: All of these

35-: Which of the following is known as suicidal enzyme? (AIIMS November 2013, May 2013)

1: Lipoxygenase

2: Cyclooxygenase

3: Thromboxane synthatase

4: 5' nucleotidase

36-: Isoenzymes can be differentiated from each other by

1: Agar gel electrophoresis

2: Heat stability

3: Substrate specificity

4: All of these

37-: Which enzyme joins two substrates-

1: Lyase

2: Ligase

3: Isomerase

4: Synthase

38-: Allosteric inhibition of an enzyme is -

1: Binding of inhibitor to catalytic site and inhibition of enzyme

2: Binding of inhibitor to other site and inhibition of enzyme

3: Inhibition of enzyme by inhibitors without binding to enzyme

4: Inactivation by phosphorylation or dephosphorylation

39-: Enzymes found in CSF:

1: GGT + ALP

2: ALP + CK-MB

3: CK + LDH

4: Deaminase and Peroxidase

40-: All of the following statements about enzymes are true EXCEPT:

1: Multienzyme complexes greatly reduce the rates of reactions

2: Isoenzymes differ in their amino acid sequence

3: Allosteric regulators do not bind to the active site of the enzyme

4: Translational regulation is method of long term regulation of enzymatic activity

41-: The vitamin used for transamination is :

1: Pyridoxal phosphate

2: Riboflavin

3: Thiamine

4: Cyanocobalamine.

42-: True about Km

1: Half the substrate concentrate at which velocity is maximum

2: Substrate concentration at which reaction rate is half the maximum

3: Michaelis constant

4: Dissociation constant of enzyme-substrate complex

43-: Carboxylases require

1: Vitamin B1

2: Vitamin B2

3: Vitamin B12

4: Vitamin B7

44-: The velocity-substrate curve below characterizes an allosteric enzyme system. The curve demonstrates that:

1: A modifier changes the binding constant for the substrate but not the velocity of the reaction

2: A modifier binding to the allosteric site can also affect the catalytic site

3: Binding of the substrate is independent of its concentration

4: Binding of the modifier is independent of its concentration

45-: The functions of many enzymes, membrane transporters, and other proteins can be quickly activated or deactivated by phosphorylation of specific amino acid residues catalyzed by enzymes called:

1: Cyclases

2: Kinases

3: Phosphatases

4: Proteases

46-: In an enzyme mediated reaction, substrate concentration was 1000 times Km 1% of substrate is metabolised to form 12 mmol of substrate in 9 minutes. If in the same reaction

enzyme concentration is reduced to 1/3rd and substrate concentration is doubled. How much time is needed to produce same amount of product?

1: 9 min

2: 13.5 min

3: 18 min

4: 27 min

47-: Refsum&;s disease is due to deficiency of which of the following enzyme?

1: Malonate dehydrogenase

2: Thiophorase

3: Succinate thiokinase

4: Phytanic alpha oxidase

48-: Chymotrypsinogen is a

1: Zymogen

2: Carboxypeptidase

3: Transaminase

4: Elastase

49-: Trypsin cleaves carboxy terminal of :

1: Glutamate

2: Arginine

3: Glycine

4: Proline

50-: Carbonic anhydrase requires -

1: Copper

2: Zinc

3: Iron

4: None

51-: Which of the following is false?

1: Cofactors have functions similar to those of prosthetic groups.

2: Cofactors bind in a transient,dissociable manner to enzymes

3: The most common cofactors are metal ions

4: Enzymes that require metal ion cofactors are termed as metalloenzymes

52-: Kinase require

1: Mn++

2: Cu++

3: Mg++

4: Inorganic phosphate

53-: Enzyme specificity

1: Amount of enzyme causing transformation of 1 H.mol of substrate per minute under standard conditions

2: Amount of enzyme required per second, per mole of product formation

3: Number of sited per substrate

4: Amount of enzyme binding with various substrates

54-: B-Carotene, precursor of vitamin A, is oxidatively cleaved by:

1: b-Carotene dioxygenase

2: Oxygenase

3: Hydroxylase

4: Transferase

55-: The enzymes level used for evaluation of myopathies is

1: Gamma-glutamyl transferase (GGT)

2: Creatine kinase (CK)

3: Lactic dehydrogenase (LDH)

4: Alnine amino transferase (ALT)

56-: Erythrocyte transketolase activity is seen in which vitamin -

1: Riboflavin

2: Thiamine

3: Folic acid

4: Niacine

57-: The main enzyme responsible for activation of xenobiotics is

1: Cytochrome P - 450

2: Glutathione S - transferase

3: NADPH cytochrome P - 450 reductase

4: Glucoronyl transferase

58-: Mixed function oxidases are the following EXCEPT

1: Homogentisate oxidase

2: Cytochrome P-450

3: Phenylalanine hydroxylase

4: Tryptophan hydroxylase

59-: Zinc is essential for -

1: Pyruvate lrinase

2: Cytochrome oxidase

3: Xanthine oxidase

4: Carbonic anhydrase

60-: Which of the following is multi-enzyme complex?

1: HMG-CoA synthase

2: Malic enzyme

3: Fatty acid synthase

4: Fatty acid oxidase

61-: Which of the following enzymes is stable at acidic pH:

1: Pepsin

2: Trypsin

3: Chymotrypsin

4: Carboxypeptidase

62-: Competitive enzyme

1: Increase Km and Vmax no change

2: Km decrease, Vmax increase

3: Km and Vmax both decrease

4: Km and Vmax both increase

63-: The following affect enzyme activity except:

1: Methylation

2: Acetylation

3: Induction

4: Phosphorylation

64-: Malonate is a competitive inhibitor of succinate dehydrogenase, a key enzyme in the Krebs tricarboxylic acid cycle. The presence of malonate will affect the kinetic parameters of succinate dehydrogenase in which one of the following ways?

1: Increases the apparent Km but does not affect Vmax.

2: Decreases the apparent Km but does not affect Vmax.

3: Decreases Vmax but does not affect the apparent Km

4: Increases Vmax but does not affect the apparent Km.

65-: Which of the following is functional plasma enzyme-

1: Lipoprotein lipase

2: LDH

3: CPK

4: Lipase

66-: Cofactor of carbonic anhydrase is?

1: Molybdenum

2: Zinc

3: Copper

4: Selenium

67-: Oxidative deamination is catalyzed by

1: Glutaminase

2: Glutamine synthase

3: Glutamate dehydrogenase

4: None of the above

68-: Which of the following method is for regulating the enzyme's quantity :

1: Phosphorylation

2: Induction

3: Acetylation

4: Glycosylation

69-: Which of the following enzyme exhibits absolute specificity for substrate?

1: Lactate dehydrogenase

2: L-amino acid oxidase

3: Urease

4: Hexokinase

70-: Other name of AST: (PGMEE 2009)

1: SGOT

2: Alkaline phosphatase

3: Acid phosphatase

4: SGPT

71-: Which of the following is a biomarker of alcoholic hepatitis?

1: ALP

2: AST

3: LDH

4: GGT

72-: Lesch Nyhan syndrome is due to deficiency of:

1: HGP deficiency

2: PRPP synthetase deficiency

3: Adenosine Deaminase deficiency

4: Xanthine Oxidase deficiency

73-: All digestive enzymes are

1: Ligases

2: Transferases

3: Hydrolases

4: Lyases

74-: Meister cycle uses:

1: ALT

2: AST

3: GGT

4: Alkaline Phosphatase

75-: Which one of the following enzymes is predominantly mitochondrial?

1: SGOT

2: SGPT

3: GGT

4: 5' nucleotidase

76-: Oxidative deamination is catalyzed by -

1: Glutaminase

2: Glutamine synthase

3: Glutamate dehydrogenase

4: None of the above

77-: All of the following are true about allosteric enzymes, EXCEPT:

1: Allosteric enzymes can't have structure beyond the teiary structure

2: Allosteric enzymes have a regulatory site other than the active site

3: Allosteric enzymes do not show Michaelis-Menten kinetics

4: Allosteric modulators bind noncovalently to allosteric site

78-: Succinate dehydrogenase is inhibited by

1: Fluoroacetate

2: Cyanide

3: Arsenite

4: Malonate

79-: Which one of the following isoenzyme variants of Creatine kinase is elevated in myocardial infarction

1: CK-BB

2: CK-MB

3: CK-MM

4: All the above

80-: Enzyme does not act by

1: Forming non-covalent interactions

2: Catalyzing the reaction

3: Increasing activation energy

4: Increasing the rate of reaction

81-: Serum alkaline phosphatase is greatly increased in

1: Haemolytic jaundice

2: Hepatic jaundice

3: Obstructive jaundice

4: None of these

82-: Unit of Km is:

1: second-1

2: Moles second-1

3: Millimoles

4: Millimoles Litre-1

83-: Activity of which of the following enzyme increase in alcoholism?

1: Lactate dehydrogenase

2: Acid phosphatase

3: Alkaline phosphatase

4: Gamma-glutamyltransferase

84-: Which enzyme is deficient in c/c alcoholics?

1: Aconitase

2: Citrate synthase

3: Isocitrate dehydrogenase

4: Alpha ketoglutarate dehydrogenase

85-: Which is true about enzyme kinetics for competitive inhibition?

1: Low Km high affinity

2: High Km high affinity

3: High Km low affinity

4: Low Km low affinity

86-: Thiamine dependent enzyme-

1: Transketolase

2: Transaldolase

3: Amino transferase

4: Einolase

87-: Serum gamma glutamyl transpeptidase increase in (GGT)

1: Hepatitis

2: Alcoholism

3: Muscular dystrophy

4: Mycardial infarction

88-: All of the following are examples for mechanism based inhibition, EXCEPT:

1: Aspirin on cyclooxygenase

2: Allopurinol on Xanthine oxidase

3: Statins on HMG-CoA reductase

4: Difluoromethylornithine on ornithine decarboxylase

89-: Zymogen activation by partial proteolysis is an example of -

1: Allosteric modification

2: Enzyme induction

3: Enzyme repression

4: Covalent modification

90-: Rate limiting step in cholesterol synthesis

1: HMG CoA reductase

2: HMG CoA synthase

3: Mevalonate kinase

4: Squalene synthetase

91-: Selenium dependent enzyme is?

1: Glutathione peroxidase

2: Xanthine oxidase

3: Cytochrome oxidase

4: Carbonic anhydrase

92-: Serum enzyme used for MI

1: CK

2: Alkaline phophatase

3: Acid phosphatase

4: Lipase

93-: Which one of the following enzyme is used as an anti-cancer drug

1: Alpha-1-antitrypsin

2: Streptokinase

3: Asparginase

4: Papain

94-: Which one of the following enzymes is obtained from Thermophilus aquaticus bacterium which is heat stable and use in PCR at high temperature?

1: DNA polymerase III

2: Endunuclease

3: Taq polymerase

4: DNA gyrase

95-: All of the following are covalent modifications of enzyme regulation EXCEPT:

1: Phosphorylation

2: ADP Ribosylation

3: Acetylation

4: Glycosylation

96-: In non-competitive enzyme action:

1: Vmaxis increased

2: Apparent km is increased

3: Apparent km is unchanged

4: Concentration of active enzyme moleculeis reduced.

97-: Which of the following enzymes is responsible for the transfer of amino groups from an amino acid to an alpha keto acid?

1: Transaminase

2: Transketolase

3: Deaminase

4: Lyase

98-: Trypsin is a:

1: Serine protease

2: Lecithinase

3: Phospholipase

4: Elastase

99-: Fumarase is

1: Lyase

2: Ligase

3: Hydrolase

4: None

100-: The active site of an enzyme will bind to which of the following set of molecules indicated?

1: Substrate of the Reaction - Yes; Allosteric Inhibitors - Yes; Competitive Inhibitors - Yes; Non-competitive Inhibitors - Yes

2: Substrate of the Reaction - Yes; Allosteric Inhibitors - No; Competitive Inhibitors - Yes; Non-competitive Inhibitors - Yes

3: Substrate of the Reaction - No; Allosteric Inhibitors - No; Competitive Inhibitors - Yes; Non-competitive Inhibitors - No

4: Substrate of the Reaction - No; Allosteric Inhibitors - No; Competitive Inhibitors - No; Non-competitive Inhibitors - No

101-: About the regulation of enzyme activity given in the diagram which of the following is true?

1: Substrate and modifier binds to same site

2: Substrate and modifiers are structural analogues

3: They exhibit cooperative binding

4: Regulate the enzyme quantity

102-: True about competitive inhibition is

1: Increases Vmax

2: Increased Km

3: Decreased Vmax

4: Decreased Km

103-: Copper-containing enzyme is

1: Cytochrome synthase

2: Catalase

3: LDH

4: None

104-: CO is released in reaction catalyzed by-

1: Decarboxylases

2: Carboxylases

3: Heme oxygenase

4: Pyruvate dehydrogenase

105-: Codons are present in -

1: t-RNA

2: r-RNA

3: m-RNA

4: si-RNA

106-: Metastasis of cancer has its roots in structural abnormalities of

1: Glycolipids in nervous tissue

2: Glycoproteins on cell surface

3: Lipoproteins in blood

4: None of the above

107-: Glycogen phosphorylase is a:

1: Oxidoreductase

2: Transferase

3: Hydrolase

4: Lyase

108-: Histidine is present at the catalytic site of which of the following enzymes

1: Hexokinase

2: Carboxypeptidase

3: Trypsin

4: All of the above

109-: Non-competitive enzyme inhibition leads to: (PGI Nov 2010)

1: Vmax|

2: Vmax|

3: Vmax unchanged

4: Km|

110-: Coenzyme, in an enzymatic reaction usually functions to

1: Activate the substrate

2: Increase the active sites of apoenzyme

3: Enhance the specificity of apoenzyme

4: Accept one of the cleavage products

111-: All of the following enzymes are involved in oxidation reduction, except:

1: Dehydrogenases

2: Hydrolases

3: Oxygenases

4: Peroxidases

112-: Refsum's disease is due to accumulation of

1: C26-C38 polyenoic acids

2: C6-C10 o-dicarboxylic acids

3: Palmitic acid

4: Phytanic acid

113-: ATP synthetase is a marker of -

1: Golgi apparatus

2: Mitochondria

3: Cytosol

4: Endoplasmic reticular

114-: Enzyme specifity is given by

1: Km

2: Vmax

3: Both

4: None

115-: A patient who wanted to go skiing in the Rockies took a medication to combat altitude sickness. A graph of this medication's mechanism of inhibition is shown. What type of inhibitor is this medication?

1: Competitive

2: Non-competitive

3: Irreversible

4: Allosteric

116-: Enzyme involved in cleavage of glycine in liver mitochondria is

1: Pyruvate dehydrogenase

2: Dihydrolipoyl transacetylase

3: Dihydrolipoyl

4: None of these

117-: Marker enzyme for plasma membrane is:

1: 5'Nucleotidase

2: Catalase

3: Acid Phosphatase

4: GGT

118-: In muscle, phosphorylase b is inactivated by

1: cAMP

2: Ca ions

3: Glucose

4: ATP

119-: Lactate dehydrogenase is:

1: Isoenzyme

2: Coenzyme

3: Antienzyme

4: Zymogen

120-: Enzyme causing covalent bond cleavage without hydrolysis

1: Lyase

2: Ligase

3: Hydrolase

4: Transferase

121-: Which of the following is NOT a rate limiting enzyme -

1: HMG-CoA reductase

2: Phosphofructokinase

3: Acetyl CoA carboxylase

4: Malonate dehydrogarase

122-: Principal serum enzyme used in clinical diagnosis of Wilson disease

1: Aspaate aminotransferase

2: Ceruloplasmin

3: b-Glucoscerebrosidase

4: Lactate dehydrogenase isozyme 5

123-: Allosteric inhibitor of pyruvate dehydrogenase

1: AMP

2: Acetyl CoA

3: ADP

4: Citrate

124-: Not a feature of competitive inhibition?

1: Inhibitor and substrate can bind simultaneously to same enzyme molecule

2: Inhibitor is structural analogue of substrate

3: Km increases

4: Vmax unaffected

125-: Which of the following is an anchoring protein?

1: Myosin

2: Actinin

3: Troponin

4: Tropomyosin

126-: Which of the following is the autocatalytic cleavage enzyme?

1: Proelastase

2: Procarboxylase

3: Pepsinogen

4: Chymotrypsinogen

127-: LDH isoenzymes-5 is raised in which organ injury?

1: Lungs

2: Brain

3: Heart

4: Liver and muscles

128-: Peptidyl transferase is a/an

1: Enzyme

2: Catalyst

3: Ribozyme

4: Elongation factor

129-: True regarding isozymes is:

1: Forms of the same enzymes that catalyze different reaction

2: Forms of the same enzymes that catalyze same reaction

3: Forms of the different enzymes that catalyze different reaction

4: Forms of the different enzymes that catalyze same reaction

130-: The enzymes engaged in the transfer of electrons are known as

1: Oxidoreductases

2: Transferases

3: Lyases

4: Ligases

131-: Which of the following enzymes are activated dephosphorylated state?

1: HMG Co A reductase

2: Glycogen phosphorylase

3: Glycogen phosphorylase kinase

4: Citrate lyase

132-: ADH requires NAD+ for catalytic activity. In the reaction catalyzed by ADH, an alcohol is oxidized to an aldehyde as NAD+ is reduced to NADH and dissociates from the enzyme. The NAD+ is functioning as a (an):

1: Apoenzyme.

2: Coenzyme-co substrate.

3: Coenzyme-prosthetic group.

4: Cofactor.

133-: Which of the following enzymes is active in phosphorylated form?

1: Pyruvate dehydrogenase

2: HMG-CoA reductase

3: HMG-CoA reductase kinase

4: Pyruvate kinase

134-: Cofactor for glutathione peroxidase

1: Mg +2

2: Se

3: Mn +2

4: Ca +2

135-: FAD-linked dehydrogenase is

1: Isocitrate dehydrogenase

2: Pyruvate dehydrogenase

3: Succinate dehydrogenase

4: Enoyl reductase

136-: Cardiac enzymes are

1: CPK

2: LDH

3: SGOT

4: ALK. Phosphatase

137-: Aldolase is a/an

1: Transperase

2: Isomerase

3: Lyase

4: Reductase

138-: CoA requires

1: Pantothenic group

2: Biotin

3: Folic acid

4: Cabalamine

139-: Which of the following enzymes is stable at acidic pH-

1: Pepsinogen

2: Trypsinogen

3: Chymotrypsinogen

4: Carboxypeptidase A

140-: Major mono-oxygenase in the endoplasmic reticulum is:

1: Cytochrome P450

2: Cytochromes

3: Epoxide reductase

4: Glutathione reductase

141-: Not raised in liver disorder is/are:

1: Lipase

2: ALP

3: AST

4: ALT

142-: Which one of the following enzyme is used in the treatment of acute myocardial infarction

1: Urokinase

2: Papain

3: Asparginase

4: Serratiopeptidase

143-: Phase-2 reaction is -

1: Oxidation

2: Hydroxylation

3: Cyclization

4: Conjugation

144-: Serum enzyme used for MI -

1: CPK

2: Alkaline phosphatase

3: Acid phosphatase

4: Lipase

145-: Arrange the enzyme categories as per increasing order of their enzyme commission numbers: A. Isomerases B. Hydrolases C. Hydratase D. Transferases

1: A- C - D - B

2: D- B-C - A

3: C- B - D - A

4: B- D - A - C

146-: Which of the following is the measure of catalytic efficiency of an enzyme?

1: Kcat/Km

2: Turnover number

3: Km

4: Kd/Km

147-: Odd chain fatty acids can form glucose by which pathway?

1: By forming Propionyl CoA

2: By forming Glycerol

3: Acetyl CoA entering TCA cycle

4: By Lactic acid formation

148-: Which one of the following is lyase enzyme?

1: Hexokinase

2: Pyruvate kinase

3: Proponyl CoA carboxylase

4: Aldolase B

149-: Following is true statement about enzymes

1: In competitive inhibition Vmax unchanged but Km increased

2: In uncompetitive inhibition Km unchanged but Vmax increased

3: In uncompetitive inhibition Km unchanged but Vmax increased

4: In uncompetitive inhibition mixed increase of Vmax and Km value

150-: In case of cyanide poisoning, antidote of amyl nitrite is given. This is an example of:

1: Receptor antagonism

2: Chemical antagonism

3: Physical antagonism

4: Physiological antagonism

151-: A transpoer has a km for glucose of 45mM and a Vmas of 36 micromoles glucose sec/mg of transpoer. If the glucose concentration in peripheral blood is 15 mM, what will the rate of glucose transpo (in micromoles glucose/sec/mg transpoer) be?

1: 6

2: 3

3: 12

4: 9

152-: Enzymes stored in muscle is

1: Alkaline phosphatase

2: SGOT

3: SGPT

4: CPK

153-: What is true about competitive inhibition?

1: The structure of inhibition molecule is similar to that of the substrate

2: The inhibitors get attached to the active site of the enzyme

3: It does not alter the structure of the enzyme.

4: All of above

154-: In RBC the enzyme deficient is

1: Hexokinase

2: Phosphofructokinase

3: Pyruvate kinase

4: Glycerol kinase

155-: Which of the following causes hydrolysis of Peptidoglycans?

1: Lysozyme

2: Lactoferrin

3: Protease

4: Aflatoxin

156-: Pyruvate dehydrogenase requires -

1: Biotin

2: Pyridoxin

3: Folic acid

4: Pantothenic acid

157-: Digestive enzymes are

1: Hydrolases

2: Oxidoreductases

3: Dehydrogenases

4: Ligases

158-: Zymogen activation by paial proteolysis is an example of

1: Allosteric modification

2: Enzyme induction

3: Enzyme repression

4: Covalent modification

159-: Km of an enzyme is

1: Dissociation constant

2: The normal physiological substrate concentration

3: The substrate concentration at half maximum velocity

4: Numerically identical for all isozymes that catalyze a given reaction

160-: Which isoenzyme has maximum electrophoretic mobility:

1: LDH-1

2: LDH-5

3: LDH-2

4: LDH-3

161-: Different sequence of amino acids having similar structure of proteins is an example of

1: Divergence

2: Convergence

3: Opportunistic

4: Incidental

162-: A 10-year old boy presented with muscle weakness and fatigue with increased lead in the blood. Which of the following enzyme production in the liver is increased?

1: ALA synthase

2: Heme oxygenase

3: Ferrochelatase

4: Porphobilinogen deaminase

163-: LDH isoenzyme specific for heart is -

1: LDH1

2: LDH2

3: LDH3

4: LDH4

164-: Which is predominant in normal healthy human?

1: LDH1

2: LDH2

3: LDH3

4: LDH4

165-: Glutathione peroxidase contains

1: Cu

2: Se

3: Fe

4: Hg

166-: All the following coenzymes paicipate in the transfer of hydrogen and electrons, Except

1: FAD

2: PLP

3: NAD+

4: NADP+

167-: True about allosteric inhibition is-

1: Substrates of an enzyme mediate allosteric inhibition

2: Citrate and ATP inhibiting PFK-1 is a classical example

3: The allosteric inhibitor directly binds to the active site of the enzyme

4: It is only homotropic allosteric regulation

168-: All of the following can be attributed to enzymatic catalysis, EXCEPT:

1: Entropy reduction

2: Solvation of active site

3: Reduction of activation energy

4: Catalysis by strain

169-: The following graph represents effect of substrate concentration on the initial velocity of an enzyme catalyzed reaction. Wrong statement about this graph is:

1: The curve is hyperbolic in shape.

2: "?" here represents Km of the enzyme

3: At point C only a small amount of the enzyme is present as the Enzyme-Substrate complex.

4: At point C, Vi is independent of

170-: Non-competitive enzyme inhibition leads to

1: Vmax |

2: Vmax |

3: Vmax unchanged

4: Km |

171-: Co enzyme for transamination-

1: Pyridoxal phosphate

2: Vitamin C

3: Biotin

4: Thiamine

172-: The buffering capacity of a buffer is maximum at pH equal to

1: 0.5 pKa

2: pKa

3: pKa+1

4: 2pKa

173-: A 28-year-old female presents with fluctuating fatigue, drooping of her eyelids, difficulty swallowing, and slurred speech. The patient is given a drug that affects an enzyme's activity, and kinetic analysis of the enzyme-catalyzed reaction, in the presence and absence of the drug, is shown below. The effect of this medication can best be described by which set of terms below?

1: Type of Inhibition - Competitive; Effect on Km (as Compared to No Drug) - Increased; Effect of Vmax(as compared to No drug - No change

2: Type of Inhibition - Competitive; Effect on Km (as Compared to No Drug) - Decreased; Effect of Vmax(as compared to No drug - Decreased

3: Type of Inhibition - Non-competitive; Effect on Km (as Compared to No Drug) - Increased; Effect of Vmax(as compared to No drug - No change

4: Type of Inhibition - Non-competitive; Effect on Km (as Compared to No Drug) - Decreased; Effect of Vmax(as compared to No drug - Increased

174-: A patient presents with recurrent kidney stones. The microscopic examination of the urine specimen is shown below. Which of the following is not seen in the urine of this patient?

1: cysteine

2: lysine

3: Arginine

4: cystine

175-: When the pH of a solution of a weak acid, HA, is equal to the pKa, the ratio of the concentrations of the salt and the acid (/) is which one of the following?

1: 0

2: 1

3: 2

4: 3

176-: Suicidal enzyme is:

1: Lipoxygenase

2: Cycloxygenase

3: Thromboxane synthase

4: 5'Nucleotidase

177-: All are true about glutathione except

1: It is a tripeptide

2: It conves hemoglobin to methemoglobin

3: It conjugates xenobiotics

4: It is co-factor of various enzymes

178-: What happens to LDH 1 & 2 ratio in MI?

1: LDH1>LDH2

2: LDH2>LDH1

3: LDH1=LDH2

4: Remains the same

179-: Enzyme catalase is found in -

1: Lysosome

2: Mitochondria

3: Peroxisomes

4: Cytosol

180-: Enzymes act by reducing the

1: Activation energy

2: Binding energy

3: Heat energy

4: Covalent energy

181-: Fumarase is a

1: Oxidoreductase

2: Transferase

3: Oxidase

4: Lyases

182-: Which of the following is a suicidal enzyme?

1: Lipoxygenase

2: Cyclooxygenase

3: 5 ' nucleotidase

4: Thromboxane synthase

183-: Cofactor of carbonic anhydrase is

1: Molybdenum

2: Zinc

3: Copper

4: Selenium

184-: Digestive enzymes are -

1: Hydrolases

2: Oxidoreductases

3: Dehydrogenases

4: Ligases

185-: Which of the following enzymes is deficient in Criggler Najer syndrome?

1: UDP glucoronyl transferase 1

2: UDP glucoronyl transferase 2

3: Bilirubin synthase

4: Heme synthase

186-: The uvrABC endonuclease is involved in which one of the following processes?

1: DNA replication

2: RNA splicing

3: DNA repair

4: DNA recombination

187-: Transaldolase is a

1: Hydrolase

2: Lyase

3: Transferase

4: Ligase

188-: Protein pa of an enzyme is called

1: Holoenzyme

2: Coenzyme

3: Cofactor

4: Apoenzyme

189-: Which of the following is a functional enzyme?

1: LDH

2: Amylase

3: Prothrombin

4: Acid phosphatase

190-: In competitive inhibition the relation Km and Vmax is one of the following

1: Km and Vmax are the same

2: km increases and Vmax are the same

3: Km decreases and Vmax increases

4: Km and Vmax decreases

191-: Enzyme responsible for transfer of aminogroups from one aminoacid to a keto acid is-

1: Transaminase

2: Transketolase

3: Ketoisomerase

4: Amine synthetase

192-: All have antioxidant property except -

1: Catalase

2: Glutathione peroxidase

3: Phosphorylase

4: Superoxide dismutase

193-: Alcohol dehydrogenase is a/an -

1: Transferase

2: Hydrolase

3: Ligase

4: Oxidoreductase

194-: LDH has following number of isoenzymes:

1: 5

2: 3

3: 11

4: 2

195-: Aspaate transaminase, an enzyme, is most abundant in

1: Brain

2: Hea

3: Spleen

4: Retina

196-: The enzyme diagnostic of MI in a case of hypothyroidism is

1: SGOT

2: LDH

3: Aldolase

4: CPK-MB

197-: Inactive precursors of enzymes are known as:

1: Apo enzymes

2: Coenzymes

3: Proenzymes

4: Holoenzymes

198-: Enzyme activity is expressed as: (PGI Dec 2006)

1: Millimoles/lit

2: Mg/lit

3: Mg/dl

4: Micromoles/min

199-: GIutathione peroxidase contains -

1: Cu

2: Se

3: Fe

4: Hg

200-: Which of the following is a reverse transcriptase?

1: Topoisomerase 2

2: Telomerase

3: RNA polymerase 2

4: DNA polymerase alpha

201-: The following are major free radical scavengers except:

1: Superoxide dismutase

2: Catalase

3: Glutathione

4: Glutamine

202-: Which of the following is not secreted as zymogen?

1: Pepsin

2: Trypsin

3: Amylase

4: Colipase

203-: Fastest acting enzyme

1: LDH

2: Trypsin

3: Catalase

4: None

204-: Nitric oxide synthase:

1: Is inhibited by Ca++

2: Catalyze a de oxygenase reaction

3: Accept electron from NADH.

4: Requires NADPH FAD, FMN, Heme iron.

205-: Myocardial infarction is associated with increased of

1: CPK

2: CPK-MM

3: CPK-MB

4: CPK - BB

206-: Biotin is a Co-enzyme for -

1: Transketolase

2: Dehydrogenase

3: Oxidase

4: Carboxylase

207-: Histidine decarboxylase is present in

1: RBC's

2: Hea

3: Liver

4: Kidney

208-: Serine of Chymotrypsin is changed with Proline. Which of the following will happen ?

1: Chymotrypsin can catalyze the protein but cannot bind it

2: Chymotrypsin can bind the protein but cannot catalyze it

3: Chymotrypsin can bind as well as can catalyze the protein

4: Chymotrypsin can neither bind nor can catalyze the protein

209-: Non-competitive enzyme inhibition leads to:

1: Vmax|

2: Vmax|

3: Vmax unchanged

4: Km|

210-: Zinc is a cofactor for

1: Pyruvate dehydrogenase

2: Pyruvate decarboxylase

3: a-keto glutarate dehydrogenase

4: Alcohol dehydrogenase

211-: Defective proteins are degraded after attaching covalently to-

1: Pepsin

2: Laminin

3: Clathrin

4: Ubiquitin

212-: Trypsin, Chymotrypsin & Elastases - What type of enzymes are they?

1: Hydrolases

2: Lyases

3: Synthases

4: Synthetases

213-: Which of the following is not an oxidoreductase?

1: Catalase

2: Glucokinase

3: Alcohol dehydrogenase

4: Peroxidase

214-: Peroxidase enzyme is used in estimating:

1: Hemoglobin

2: Ammonia

3: Creatinine

4: Glucose

215-: Which of the following is lyase?

1: Decarboxylase

2: Synthetase

3: Kinase

4: Oxygenase

216-: All of the following enzymes are regulated by calcium/calmodulin, EXCEPT

1: Hexokinase

2: Nitric oxide synthase

3: Pyruvate dehydrogenase

4: Phosphatidyl Inositol 3 kinase

217-: Extracellular binding domain for the ligand is present in all types of receptor except

1: G-protein

2: Enzyme linked

3: Transcription factors

4: None

218-: All known effects of cyclic AMP in eukaryotic cells results from

1: Activation of the catalytic unit of adenylate cyclase

2: Activation of synthetase

3: Activation of protein kinase

4: Activation Phosphorylation of G protein

219-: All are true about nohern blotting technique except

1: Involves electrophoresis

2: Requires hybridization probes

3: Used to detect DNA molecules

4: Requires restriction endonucleases

220-: Copper containing enzyme is -

1: Cytochrome oxidase

2: Catalase

3: LDH

4: None

221-: Alcohol Dehydrogenase comes under which class of enzyme?

1: Oxidoreductase

2: Dehydrogenase

3: Hydrolase

4: Oxidase

222-: All of the following enzymes are involved in oxidation-reduction reactions, except

1: Dehydrogenases

2: Hydrolases

3: Oxygenases

4: Peroxidases

223-: Which component transfer four protons?

1: NADH-Q oxidoreductase

2: Cytochrome oxidase

3: Cytochrome-Q c oxidoreductase

4: Isocitrate dehydrogenase

224-: Serine proteases

1: Hydrolyze peptide bonds involving carboxyl groups of serine residues

2: Are characterized by having several active sites per molecule, each containing a serine residue

3: Are inactivated by reaching with one molecule of di-isopropyl-fluorophosphate per molecule of protein

4: Are exopeptidases

225-: The drugs that form complexes with pyridoxal are:

1: Isoniazid

2: Penicillamine

3: Rifampicin

4: Both A. and B.

226-: Which of the following contains Zinc?

1: Cytochrome oxidase

2: Glutathione peroxidase

3: Catalase

4: Carboxy peptidase

227-: Which statement is false about covalent modification?

1: It is reversible

2: It is slower than allosteric regulation

3: It uses the same enzyme for activation and inactivation

4: Phosphorylation is a common covalent modification

228-: All are rate-limiting enzymes except

1: HMG-CoA reductase

2: HMG-CoA synthase

3: Glyceraldehyde-3-phosphate dehydrogenase

4: Acetyl-CoA carboxylase

229-: In competitive inhibition, the relation Km and Vmax is one of the following

1: Km and Vmax are the same

2: Km increases and Vmax is the same

3: Km decreases and Vmax is the increases

4: Km and Vmax increases

230-: Which of the following is a selenium-dependent enzyme?

1: Glucokinase

2: Aminotrasnferase

3: Glutathione peroxidase

4: Lysyl hydroxylase

231-: True about reversible non-competitive inhibitors

1: Lower V max

2: Lower Km

3: Not affected Km

4: Not affect V max

232-: A mitochondrial marker enzyme is:

1: Aldolase

2: Amylase

3: Succinic dehydrogenase

4: Pyruvate dehydrogenase

233-: Which one of the following reactions has flavin mononucleotide (FMN) as a coenzyme?

1: Amino acid oxidation reaction

2: Conversion of xanthine to uric acid

3: Conversion of succinate to fumarate

4: Conversion of pyruave to acetyl CoA

234-: Which of the following is NOT a characteristic feature of allosteric enzymes?

1: They are multi enzyme complex

2: Follow michalis-mentin kinetics

3: Presence of modulator site

4: Give sigmoid shaped curve

235-: Substrate concentration at which Vi is half the maximal velocity attainable at a paicular concentration of enzyme is called as

1: Vmax

2: Vmax/2

3: Km

4: Km/2

236-: The specific activity of an enzyme would be repoed in which of the following units of measures?

1: Millimoles per liter

2: Units of activity per milligram of protein

3: Micromoles per minute

4: Units of activity per minute

237-: Non-functional enzymes are all except:

1: Alkaline phosphatase

2: Acid phosphatase

3: Lipoprotein lipase

4: Gamma glutamyl transpeptidase

238-: Isoenzyme, true is

1: Same structure and similar function

2: Different structure and similar function

3: Catalse different reaction

4: Have same Km

239-: Fischer's lock and key theory' postulates that:

1: Active site in enzyme exists in proper conformation to the substrate molecule even in absence of substrate

2: Active site during binding to substrate under goes conformational changes to fit

3: There is absolute specificity in reaction between enzyme and substrate

4: Enzymes have catalytic power and accelerate reaction by reducing energy of activation

240-: Which of the following does not require copper for action?

1: Tyrosinase

2: Superoxide dismutase

3: Carbonic anhydrase

4: Ceruloplasmin

241-: Km changes and Vmax remains the same. What is the type of enzyme inhibition?

1: Competitive inhibition

2: Non-competitive inhibition

3: Uncompetitive inhibition

4: Suicide inhibition

242-: Zn is present as prosthetic group in this enzyme:

1: Carbonic anhydrase

2: Carboxy peptidase

3: Lactate dehydrogenase

4: All of these

243-: Ferrochelatase is inhibited by -

1: Arsenic

2: Lead

3: Chromium

4: Mercury

244-: Which enzyme converts androgen to estrogen?-

1: Cholesterol Desmolase

2: Aromatase

3: 11 b hydroxylase

4: 21 b hydroxylase

245-: Enzymatic activity is measured in

1: mg/dl

2: microgram/litre

3: mg/litre

4: mol/second

246-: Selenocysteine is a pa of

1: NADP re ductase

2: NADPH dehydrogenase

3: Thioredoxin reductase

4: Pyruvate dehydeogenase

247-: Coenzymes are.....organic compounds

1: Lipoprotein

2: Proteinaceous

3: Non-protein

4: Any of the above

248-: Copper involves collagen synthesis by:

1: Lysyl oxidase

2: Lysyl hydroxylase

3: Cytochrome oxidase

4: Tyrosinase

249-: True about glutamate dehydrogenase -

1: It is present in inner mitochondrial membrane

2: It is elevated in acute viral hepatitis

3: It favours formation of glutamate

4: It is used as a marker to assess drug safety

250-: Rate limiting step in heme synthesis is catalyzed by-

1: ALA dehydratase

2: ALA synthase

3: UPG decarboxylase

4: Ferrochelatase

251-: Select the TRUE statement about Michealis Constant (Km)

1: Km is dependent on enzyme concentration.

2: Km value is inversely propoional to the affinity of enzyme for its substrate.

3: Km value denotes the product concentration at half maximal velocity.

4: Km value can be same for two different enzymes.

252-: Enzyme deficient in alkaptonuria is

1: Homogentisic acid oxidase

2: Tyrosinase I

3: Tyrosinase II

4: Acid maltase

253-: Hexokinase is -

1: Ligase

2: Transferase

3: Oxidoreductase

4: Reductase

254-: The adenylate cyclase system is mediated by

1: cAMP

2: Phosphodiesterase

3: GTP regulating proteins

4: Nuclear receptors

255-: A buffer that is most effective at a pH of about 4.5 is;

1: Acetate buffer.

2: Bicarbonate buffer

3: Phosphate buffer

4: Tris buffer

256-: Carboxylases requires

1: Vitamin B12

2: Folic acid

3: Niacin

4: Biotin

257-: Catalase is present in which of the following?

1: Golgi complex

2: Lysosomes

3: Peroxisomes

4: Mitochondria

258-: Enzyme Transketolase requires -

1: FAD

2: TPP

3: PLP

4: FMN

259-: All of the following cells contain telomerase enzyme except

1: Cancer cells

2: Germ cells

3: Somatic cells

4: Hemopoetic cells

260-: Which of the following is true about non-competitive inhibition?

1: Vmax |, no change in km

2: Vmax |, no change in km

3: Both Vmax and km |

4: Both Vmax and km |

261-: Enzyme defect tested in Guthrie's test?

1: Phenyl alanine hydroxylase

2: Tyrosine transaminase

3: p- Hydroxyphenyl pyruvate dioxygenase

4: Homogentisate oxidase

262-: Abzyme is a/an:

1: Isoenzyme

2: Abnormal enzyme

3: Antibody with a catalytic activity

4: Allosteric enzyme

263-: A common feature of all serine proteases is

1: Autocatalytic activation of zymogen precursor

2: Tight binding of pancreatic trypsin inhibitor

3: Cleavage of protein on the carboxyl site of serine residues

4: Presence of Ser-His-Asp catalytic triad at the active site

264-: Coenzyme in decarboxylation reaction:

1: Niacin

2: Biotin

3: Pyridoxine

4: Riboflavin

265-: CoA requires -

1: Pantothenic group

2: Biotin

3: Folic acid

4: Cabalamine

266-: Dehydrogenases use as coenzymes all of the following, except

1: FMN

2: FAD

3: NADOP+

4: Ferriprotoporphyrin

267-: Pyridoxal phosphate acts as coenzyme for the following except

1: Alanine transferase

2: Transketolase

3: ALA Synthase

4: Cystathionine Synthase

268-: Deficiency of the enzyme phytate oxidase results in?

1: Zillweger's disease

2: Low's syndrome

3: Refsum's disease

4: Tay-sach's disease

269-: Enzyme which cleaves C-C bond :

1: Lyase

2: Ligase

3: Transferase

4: Isomerase

270-: Which of the following is a functional plasma enzyme:

1: LDH

2: Acid phosphatase

3: Prothrombin

4: Amylase

271-: Non-functional enzymes are all except

1: Alkaline phosphatase

2: Acid phosphatase

3: Lipoprotein lipase

4: Gamma glutamyl transpeptidase

272-: Activation energy is the difference between free energy of:

1: Substrate and product

2: Substrate and transition state

3: Transition state and product

4: Substrate and intermediate

273-: Not a rate limiting enzyme -

1: PFK

2: HMG CoA reductase

3: HMG CoA synthase

4: Aldolase

274-: All are true about glutathione except:

1: It is a tripeptide

2: It converts hemoglobin to methemoglobin

3: It conjugates xenobiotics

4: It is co-factor of various enzymes

275-: Carbonic anhydrase is which type of enzyme -

1: Coenzyme

2: Metalloenzyme

3: Serine protease

4: Endopeptidase

276-: A noncompetitive inhibitor of an enzyme does which of the following?

1: Decreased Vmax

2: Increased Vmax

3: Decreased Km and decreases Vmax

4: Increases Km and increases Vmax

277-: Action of a-subunit of G protein is:

1: Breakdown of GTP to GDP

2: Conversion of GDP to GTP

3: Internalization of receptors

4: Binding of agonist

278-: Regan isoenzyme is increased in

1: Seminoma

2: Paget's disease

3: Osteoporosis

4: Cholestasis

279-: All have antioxidant propey except

1: Catalase

2: Glutathione peroxidase

3: Phosphorylase

4: Superoxide dismutase

280-: Enzyme deficiency in Farber disease is

1: Arylsulfatase A

2: Sphingomyelinase

3: Ceramidase

4: Hexosaminidase A

281-: Which of the following estimates blood creatinine level most accurately:

1: Jaffe method

2: Kinetic jaffe method

3: Technicon method

4: Enzyme assay

282-: For every 10-degree Celsius raise in the temperature, the rate of most of the enzymatic reactions:

1: Halves

2: Doubles

3: Quadruples

4: Increases 10-fold

283-: Adenylate cyclase conves

1: ATP to ADP

2: ADP to ATP

3: ATP to cAMP

4: AMP to ADP

284-: Glutathione peroxidase is a/an -

1: Catalase

2: Antioxidant

3: Microsomal enzyme

4: None

285-: In competitive inhibition the relation Km and Vmax is one of the following -

1: Km and Vmax are the same

2: Km increases and Vmax is the same

3: Km decreases and Vmax increases

4: Km and Vmax decreases

286-: Which of the following is a lyase

1: Aldolase

2: Fumarase

3: Decarboxylase

4: All of the above

287-: Which one of the following statements about Km value is true?

1: Km is substrate concentration at maximal velocity

2: Numerical value of km is propoional to affinity of enzyme for substrate

3: Km is independent of enzyme concentration

4: Km denotes that 100% of enzyme molecules are bound with substrat molecules at that concentration

288-: True about competitive inhibition of enzyme

1: | Km

2: | Km

3: | Vmax

4: No change in Km and Vmax

289-: In acute intermittent porphyria which enzyme is deficient?

1: ALA synthase

2: Uroporphyrinogen I synthase

3: Uroporphyrinogen II synthase

4: Uroporphyrinogen III synthase

290-: Serum gamma glutamyl transpeptidase maximum increased in

1: Alcoholism

2: Pancreatitis

3: Myocardial infarction

4: Hepatitis

291-: Carboxylases requires -

1: Vitamin B12

2: Folic acid

3: Niacin

4: Biotin

292-: Serum alkaline phosphatase levels increases in:

1: Hypothyroidism

2: Carcinoma of prostate

3: Hyperparathyroidism

4: Myocardial infarction

293-: Non-vitamin coenzyme is

1: Lipoic acid

2: CoA

3: S-adenosyl methionine

4: Niacin

294-: Which of the following is an example of a reverse transcriptase?

1: Gyrase

2: Helicase

3: Telomerase

4: RNA polymerase

295-: Which statement is false about allosteric regulation?

1: It is usually the mode of regulation for the last step in reaction pathways

2: Cellular response is faster with allosteric control than by controlling enzyme concentration in the cell

3: The regulation usually is impoant to the conservation of energy and materials in cells

4: Allosteric modulators bind non-covalently at sites other than the active site and induce conformational changes in the enzyme

296-: Enzyme replacement therapy is used for-

1: Gaucher's disease

2: Krabbe's disease

3: Metachromatic leukodystrophy

4: Tay Sach's disease

# Answers

| Question No | Answer Option | Answer |
|---|---|---|
| 1 | 4 | L-Phenylalanine |
| 2 | 2 | 5 a reductase |
| 3 | 4 | Non-competitive irreversible inhibition |
| 4 | 2 | Carbonic Anhydrase II |
| 5 | 2 | Microtubules |
| 6 | 1 | Alkaline phosphatase |
| 7 | 1 | SGOT (AST) |
| 8 | 2 | Succinate thiokinase |
| 9 | 3 | 3.5 |
| 10 | 2 | Isomerases |
| 11 | 1 | Pepsin |
| 12 | 3 | Activate the substrate |
| 13 | 1 | LDH 1>2 |
| 14 | 1 | Biotin |
| 15 | 2 | Transferase |
| 16 | 2 | Astrocytes |
| 17 | 2 | Thiamine |
| 18 | 1 | Acid Phosphatase |
| 19 | 4 | Zymogen |

 

| | | |
|---|---|---|
| 20 | 2 | Zinc |
| 21 | 4 | Micromoles/min |
| 22 | 1 | Glycation |
| 23 | 2 | Zinc |
| 24 | 2 | 27 mins |
| 25 | 2 | Tranketolase |
| 26 | 2 | Incorporates 1 atoms of oxygen |
| 27 | 2 | Competitive |
| 28 | 1 | Km |
| 29 | 2 | Cyclooxygenase |
| 30 | 2 | Citrate |
| 31 | 3 | The substrate concentration that produces half maximum velocity |
| 32 | 4 | LDH1>LDH2 |
| 33 | 2 | Non-competitive inhibitor |
| 34 | 4 | All of these |
| 35 | 2 | Cyclooxygenase |
| 36 | 4 | All of these |
| 37 | 2 | Ligase |
| 38 | 2 | Binding of inhibitor to other site and inhibition of enzyme |
| 39 | 3 | CK + LDH |
| 40 | 1 | Multienzyme complexes greatly reduce the rates of reactions |

| | | |
|---|---|---|
| 41 | 1 | Pyridoxal phosphate |
| 42 | 2 | Substrate concentration at which reaction rate is half the maximum |
| 43 | 4 | Vitamin B7 |
| 44 | 2 | A modifier binding to the allosteric site can also affect the catalytic site |
| 45 | 2 | Kinases |
| 46 | 4 | 27 min |
| 47 | 4 | Phytanic alpha oxidase |
| 48 | 1 | Zymogen |
| 49 | 2 | Arginine |
| 50 | 2 | Zinc |
| 51 | 4 | Enzymes that require metal ion cofactors are termed as metalloenzymes |
| 52 | 3 | Mg++ |
| 53 | 1 | Amount of enzyme causing transformation of 1 H.mol of substrate per minute under standard conditions |
| 54 | 1 | b-Carotene dioxygenase |
| 55 | 2 | Creatine kinase (CK) |
| 56 | 2 | Thiamine |
| 57 | 1 | Cytochrome P - 450 |
| 58 | 1 | Homogentisate oxidase |
| 59 | 4 | Carbonic anhydrase |
| 60 | 3 | Fatty acid synthase |

 

| | | |
|---|---|---|
| 61 | 1 | Pepsin |
| 62 | 1 | Increase Km and Vmax no change |
| 63 | 3 | Induction |
| 64 | 1 | Increases the apparent Km but does not affect Vmax. |
| 65 | 1 | Lipoprotein lipase |
| 66 | 2 | Zinc |
| 67 | 3 | Glutamate dehydrogenase |
| 68 | 2 | Induction |
| 69 | 3 | Urease |
| 70 | 1 | SGOT |
| 71 | 4 | GGT |
| 72 | 1 | HGP deficiency |
| 73 | 3 | Hydrolases |
| 74 | 3 | GGT |
| 75 | 1 | SGOT |
| 76 | 3 | Glutamate dehydrogenase |
| 77 | 1 | Allosteric enzymes can't have structure beyond the teiary structure |
| 78 | 4 | Malonate |
| 79 | 2 | CK-MB |
| 80 | 3 | Increasing activation energy |
| 81 | 3 | Obstructive jaundice |
| 82 | 4 | Millimoles Litre-1 |

| | | |
|---|---|---|
| 83 | 4 | Gamma-glutamyltransferase |
| 84 | 4 | Alpha ketoglutarate dehydrogenase |
| 85 | 3 | High Km low affinity |
| 86 | 1 | Transketolase |
| 87 | 2 | Alcoholism |
| 88 | 3 | Statins on HMG-CoA reductase |
| 89 | 4 | Covalent modification |
| 90 | 1 | HMG CoA reductase |
| 91 | 1 | Glutathione peroxidase |
| 92 | 1 | CK |
| 93 | 3 | Asparginase |
| 94 | 3 | Taq polymerase |
| 95 | 4 | Glycosylation |
| 96 | 3 | Apparent km is unchanged |
| 97 | 1 | Transaminase |
| 98 | 1 | Serine protease |
| 99 | 1 | Lyase |
| 100 | 3 | Substrate of the Reaction - No; Allosteric Inhibitors - No; Competitive Inhibitors - Yes; Non-competitive Inhibitors - No |
| 101 | 3 | They exhibit cooperative binding |
| 102 | 2 | Increased Km |

| | | |
|---|---|---|
| 103 | 1 | Cytochrome synthase |
| 104 | 3 | Heme oxygenase |
| 105 | 3 | m-RNA |
| 106 | 2 | Glycoproteins on cell surface |
| 107 | 2 | Transferase |
| 108 | 4 | All of the above |
| 109 | 2 | Vmax\| |
| 110 | 4 | Accept one of the cleavage products |
| 111 | 2 | Hydrolases |
| 112 | 4 | Phytanic acid |
| 113 | 2 | Mitochondria |
| 114 | 1 | Km |
| 115 | 2 | Non-competitive |
| 116 | 3 | Dihydrolipoyl |
| 117 | 1 | 5'Nucleotidase |
| 118 | 4 | ATP |
| 119 | 1 | Isoenzyme |
| 120 | 1 | Lyase |
| 121 | 4 | Malonate dehydrogarase |
| 122 | 2 | Ceruloplasmin |
| 123 | 2 | Acetyl CoA |
| 124 | 1 | Inhibitor and substrate can bind simultaneously to same enzyme molecule |

| | | |
|---|---|---|
| 125 | 2 | Actinin |
| 126 | 3 | Pepsinogen |
| 127 | 4 | Liver and muscles |
| 128 | 3 | Ribozyme |
| 129 | 2 | Forms of the same enzymes that catalyze same reaction |
| 130 | 1 | Oxidoreductases |
| 131 | 1 | HMG Co A reductase |
| 132 | 2 | Coenzyme-co substrate. |
| 133 | 3 | HMG-CoA reductase kinase |
| 134 | 2 | Se |
| 135 | 3 | Succinate dehydrogenase |
| 136 | 1 | CPK |
| 137 | 3 | Lyase |
| 138 | 1 | Pantothenic group |
| 139 | 1 | Pepsinogen |
| 140 | 1 | Cytochrome P450 |
| 141 | 1 | Lipase |
| 142 | 1 | Urokinase |
| 143 | 4 | Conjugation |
| 144 | 1 | CPK |
| 145 | 2 | D- B-C - A |
| 146 | 1 | Kcat/Km |
| 147 | 1 | By forming Propionyl CoA |
| 148 | 4 | Aldolase B |

| | | |
|---|---|---|
| 149 | 1 | In competitive inhibition Vmax unchanged but Km increased |
| 150 | 2 | Chemical antagonism |
| 151 | 3 | 12 |
| 152 | 2 | SGOT |
| 153 | 4 | All of above |
| 154 | 3 | Pyruvate kinase |
| 155 | 1 | Lysozyme |
| 156 | 4 | Pantothenic acid |
| 157 | 1 | Hydrolases |
| 158 | 4 | Covalent modification |
| 159 | 3 | The substrate concentration at half maximum velocity |
| 160 | 1 | LDH-1 |
| 161 | 2 | Convergence |
| 162 | 1 | ALA synthase |
| 163 | 1 | LDH1 |
| 164 | 2 | LDH2 |
| 165 | 2 | Se |
| 166 | 2 | PLP |
| 167 | 2 | Citrate and ATP inhibiting PFK-1 is a classical example |
| 168 | 2 | Solvation of active site |
| 169 | 3 | At point C only a small amount of the enzyme is present as the Enzyme-Substrate complex. |

| | | |
|---|---|---|
| 170 | 2 | Vmax \| |
| 171 | 1 | Pyridoxal phosphate |
| 172 | 2 | pKa |
| 173 | 1 | Type of Inhibition - Competitive; Effect on Km (as Compared to No Drug) - Increased; Effect of Vmax(as compared to No drug - No change |
| 174 | 1 | cysteine |
| 175 | 2 | 1 |
| 176 | 2 | Cycloxygenase |
| 177 | 3 | It conjugates xenobiotics |
| 178 | 1 | LDH1>LDH2 |
| 179 | 3 | Peroxisomes |
| 180 | 1 | Activation energy |
| 181 | 4 | Lyases |
| 182 | 2 | Cyclooxygenase |
| 183 | 2 | Zinc |
| 184 | 1 | Hydrolases |
| 185 | 1 | UDP glucoronyl transferase 1 |
| 186 | 3 | DNA repair |
| 187 | 3 | Transferase |
| 188 | 4 | Apoenzyme |
| 189 | 3 | Prothrombin |
| 190 | 2 | km increases and Vmax are the same |

| | | |
|---|---|---|
| 191 | 1 | Transaminase |
| 192 | 3 | Phosphorylase |
| 193 | 4 | Oxidoreductase |
| 194 | 1 | 5 |
| 195 | 2 | Hea |
| 196 | 4 | CPK-MB |
| 197 | 3 | Proenzymes |
| 198 | 4 | Micromoles/min |
| 199 | 2 | Se |
| 200 | 2 | Telomerase |
| 201 | 4 | Glutamine |
| 202 | 2 | Trypsin |
| 203 | 3 | Catalase |
| 204 | 4 | Requires NADPH FAD, FMN, Heme iron. |
| 205 | 3 | CPK-MB |
| 206 | 4 | Carboxylase |
| 207 | 3 | Liver |
| 208 | 2 | Chymotrypsin can bind the protein but cannot catalyze it |
| 209 | 2 | Vmax\| |
| 210 | 4 | Alcohol dehydrogenase |
| 211 | 4 | Ubiquitin |
| 212 | 1 | Hydrolases |
| 213 | 2 | Glucokinase |

| | | |
|---|---|---|
| 214 | 4 | Glucose |
| 215 | 1 | Decarboxylase |
| 216 | 1 | Hexokinase |
| 217 | 3 | Transcription factors |
| 218 | 3 | Activation of protein kinase |
| 219 | 3 | Used to detect DNA molecules |
| 220 | 1 | Cytochrome oxidase |
| 221 | 1 | Oxidoreductase |
| 222 | 2 | Hydrolases |
| 223 | 1 | NADH-Q oxidoreductase |
| 224 | 2 | Are characterized by having several active sites per molecule, each containing a serine residue |
| 225 | 4 | Both A. and B. |
| 226 | 4 | Carboxy peptidase |
| 227 | 3 | It uses the same enzyme for activation and inactivation |
| 228 | 3 | Glyceraldehyde-3-phosphate dehydrogenase |
| 229 | 2 | Km increases and Vmax is the same |
| 230 | 3 | Glutathione peroxidase |
| 231 | 1 | Lower V max |
| 232 | 3 | Succinic dehydrogenase |
| 233 | 1 | Amino acid oxidation reaction |

 

| | | |
|---|---|---|
| 234 | 2 | Follow michalis-mentin kinetics |
| 235 | 3 | Km |
| 236 | 2 | Units of activity per milligram of protein |
| 237 | 3 | Lipoprotein lipase |
| 238 | 2 | Different structure and similar function |
| 239 | 1 | Active site in enzyme exists in proper conformation to the substrate molecule even in absence of substrate |
| 240 | 3 | Carbonic anhydrase |
| 241 | 1 | Competitive inhibition |
| 242 | 4 | All of these |
| 243 | 2 | Lead |
| 244 | 2 | Aromatase |
| 245 | 4 | mol/second |
| 246 | 3 | Thioredoxin reductase |
| 247 | 3 | Non-protein |
| 248 | 1 | Lysyl oxidase |
| 249 | 4 | It is used as a marker to assess drug safety |
| 250 | 2 | ALA synthase |
| 251 | 2 | Km value is inversely propoional to the affinity of enzyme for its substrate. |
| 252 | 1 | Homogentisic acid oxidase |
| 253 | 2 | Transferase |

| | | |
|---|---|---|
| 254 | 1 | cAMP |
| 255 | 1 | Acetate buffer. |
| 256 | 4 | Biotin |
| 257 | 3 | Peroxisomes |
| 258 | 2 | TPP |
| 259 | 3 | Somatic cells |
| 260 | 1 | Vmax \|, no change in km |
| 261 | 1 | Phenyl alanine hydroxylase |
| 262 | 3 | Antibody with a catalytic activity |
| 263 | 4 | Presence of Ser-His-Asp catalytic triad at the active site |
| 264 | 3 | Pyridoxine |
| 265 | 1 | Pantothenic group |
| 266 | 4 | Ferriprotoporphyrin |
| 267 | 2 | Transketolase |
| 268 | 3 | Refsum's disease |
| 269 | 1 | Lyase |
| 270 | 3 | Prothrombin |
| 271 | 3 | Lipoprotein lipase |
| 272 | 2 | Substrate and transition state |
| 273 | 4 | Aldolase |
| 274 | 2 | It converts hemoglobin to methemoglobin |
| 275 | 2 | Metalloenzyme |

| | | |
|---|---|---|
| 276 | 1 | Decreased Vmax |
| 277 | 1 | Breakdown of GTP to GDP |
| 278 | 1 | Seminoma |
| 279 | 3 | Phosphorylase |
| 280 | 4 | Hexosaminidase A |
| 281 | 4 | Enzyme assay |
| 282 | 2 | Doubles |
| 283 | 3 | ATP to cAMP |
| 284 | 2 | Antioxidant |
| 285 | 2 | Km increases and Vmax is the same |
| 286 | 4 | All of the above |
| 287 | 3 | Km is independent of enzyme concentration |
| 288 | 1 | \| Km |
| 289 | 2 | Uroporphyrinogen I synthase |
| 290 | 1 | Alcoholism |
| 291 | 4 | Biotin |
| 292 | 3 | Hyperparathyroidism |
| 293 | 1 | Lipoic acid |
| 294 | 3 | Telomerase |
| 295 | 1 | It is usually the mode of regulation for the last step in reaction pathways |
| 296 | 1 | Gaucher's disease |