Water +Acid and Base + PH and buffers Past Paper

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- Water acquires its high specific heat,boiling point, melting point and other physicalproperties because:
- a.It is an amphipathic molecule
- b.It has a high ion product of water
- c.It can form hydrogen bonds with each other
- d.It can dissociate to protons and hydroxyl ions
- e.It acts as an amphoteric molecule
- Ans : C

- The pkb of a base is 3.0. What is thepH of a 1 mM solution of the base?
- a.10
- b.9
- c.13
- d.12
- e.11
- Ans: E

- Calculate the normality of a solution thatcontains 4.5 g of H3A acid in 3000 mL ofsolution? (molecular weight is 30)
- a.1.5 N
- b.0.15 N
- C.0.45 N
- d.4.5 N
- e.0.00015 N
- Ans: B

- The following is a description of water molecule:
- a.Hydrophobic
- b.Amphipathic
- C.lonic compound
- d.Amphoteric
- e.Micelle
- Answer : D

- The pkb of a base is 5.0. What is the pH of a 100 mM solution of the base?
- a.13
- b.12
- C.11
- d.9
- e.10
- Ans: C

- You want to turn a solution containing X moles of Ca(OH)2 into a buffer solution.Which of the following should you add?
- a.2X moles of acetic acid
- b.X/2 moles of acetic acid
- c.X moles of H2S04
- d.3X moles of acetic acid
- e.2X moles of HCL
- Ans:D

- Between inflection and equivalence points ofan acid (HA) titration:
- a.The solution cannot act as a buffer
- b.Less than 50% of the equivalents were added
- c.pH is necessarily 7
- d.pH is less than pKa
- e.[A-] is less than [HA]
- Answer : A

- Laboratory tests on the urine of a patient identified the presence of methylmalonate(-00C-CH(CH3)-COO-). Which of the following statement describes methylmalonate best?
- a.It cannot be used to make a buffer solution
- b.It is 100% dissociated at its pKa
- c.It is a major intracellular buffer
- d.It is the conjugate base of a weak acid
- e.It is a strong acid
- Answer : D

- Calculate the pH of a solution prepared bydissolving 600 mg of monoprotic acid in 10 ml of 0.5 M solution of NaOH. pKa of the acid is 7.0 (M.W of the acid is 100).
- a.7.0
- b.6.5
- c.6.7
- d.8.0
- e.7.7
- Ans : E

- An acid was completely titrated with 3equivalents of a strong base. The following statement describesthis acid:
- a.The pH at the end of titration is lower than that at the beginning of the process
- b.pKa1 is the largest
- c.The titration of the last proton produces a relatively more basic buffer than that of other protons
- d.The acid has to be strong
- e.The acid releases its last proton at the lowest pHduring titration
- Answer: C

- The following statement is CORRECT regarding the inflection point:
- a.pH equals 7
- b.70% of titration is finished
- c.pH equals pKa
- d.The solution cannot act as a buffer
- e.The curve is steep
- Answer: C

- The buffer system that can act both intracellularly and extracellularly is:
- a.Album.
- B.Bicarbonate carbonic acid
- c.Protein
- d.Hemoglobin
- e.Phosphate
- Answer :C

- Increasing reabsorption of HCO3- can be the mechanism of compensation for:
- a.A starved individual
- b.An asthmatic patient
- c.An uncontrolled diabetic patient
- d.A mountain climber
- e.A controlled diabetic patient
- Answer : B

- An asthmatic patient can be compensated by:
- a.Increasing reabsorption of HCO_3^-
- b.Increasing exhalation of CO_2
- c.Increasing secretion of HCO_3^-
- d.Decreasing exhalation of CO_2
- e.Increasing H_2C0_3 production
- Answer : A

- More CO_2 is exhaled when:
- a.The pH of the blood increases
- b.The cytosolic pH decreases
- c.The cytosolic pH increases
- d.The pH of the blood decreases
- e.Protein buffer system is activated
- Answer : D

- The buffer system that provides the highest extracellular capacity is:
- a.Albumin
- b. Protein
- c.Hemoglobin
- d. Bicarbonate carbonic acid
- e.Phosphate
- Answer : D

- Saliva -> 6, slightly acid
- 19His vs 9 His -> 19 His highest capacity
- true about curve> point = pka
- true about equivalent point -> cant act as buffer
- Increase Hco3- excretion-> highest altitude(mountain)
- Major molecule in bicarbonate buffer bicarbonate

Carbohydrates past paper

- The storage form of sugars in animal cellsiS:
- a.Pectin
- b.Amylose
- c.Cellulose
- d. Glycogen
- e.Chitin
- Answer : D

- The residues of the following disaccharideare connected by a beta linkage:
- a.Lactose
- b.Maltose
- c.Pectin
- d.Sucrose
- e.Raffinose
- Answer : A

- The sugar that does NOT produce a mirror in Tollen's test is:
- a. Maltose
- b.Lactose
- c.Maltose
- d.Galactose
- e.Sucrose
- Answer : E

- Which of the following is an oxidized sugar?
- a.Glucuronate
- b.Sorbitol
- c.Sucrose
- d.Fructose
- e.Ribose
- Answer : A

- Galactose and mannose are:
- a.Epimers and diasteromers
- b.Epimers
- c.Constitutional isomers
- d.Enantiomerse
- e.Diastereomers
- Answer : E

- The following statement describes glucuronic acid:
- a.It is less polar than glucose
- b.It has a bonded anomeric carbon
- c.It has two carbons outside the ring structure
- d.It is oxidized on carbon 6
- Answer : D

- Bacterial cell wall is made of --- that is cross-linked by ---
- a.cholesterol molecules, proteins
- b.a hetero-polysaccharide, peptides
- c.a hetero-polysaccharide, polypeptides
- d.glycoproteins, oligosaccharides
- e.a homo-polysaccharide, peptidese.
- Answer : B

- How many chiral center (s) is/are presentin the open chain structure of 2-deoxyribose?
- a.1
- b.2
- c.0
- d.4
- e.3
- Answer : B

- Amylopectin is composed of——-that are connected by———and branched ——-at———
- a.Galactose residues, alpha-1,4 linkage, carbon number 1
- b.Glucose residues, alpha-1,4 linkage, carbon number 6
- C.Galactose residues, alpha-1,4 linkage, carbon number 6
- d.Ribose residues, alpha-1,4 linkage, carbon number 6
- e.Glucose residues, beta-1,4 linkage, carbon number 1
- Answer : B

- Beta-glucose can be distinguished from alpha glucose by:
- a.The orientation of carbon number 6 relative tothe ring
- b.The orientation of the hydroxyl group oncarbon number 4
- C.The orientation of the hydroxyl group oncarbon number 2
- d.The orientation of the hydroxyl group oncarbon number 1
- e.The orientation of the carbonyl carbon in the linear structure
- Answer : D

- Cellulose fibers share the following characteristic with amylose:
- a.They have alpha linkages
- b.They are made of galactose residues
- C.They cannot be digested
- d.They are unbranched
- e.They have many non-reducing ends
- Answer : D

- How many chiral center(s) is/are present in the ring structure of ribose?
- a.3
- B.0
- C.2
- d.4
- e.1
- Answer : d

- The disaccharide that can produce galactose when digested is:
- a.Sucrose
- b.Lactose
- C.Maltose
- d.Cellobiose
- e.Amylose
- Answer : B

- The hetero-polysaccharides withsulfated sugars, amino sugars and/or oxidizedsugars that are mainly derived of glucose andgalactose and are found in extracellular matrixare:
- a.Pectin
- b.Dextran
- C.Chitin
- d.Glycosaminoglycans
- e.Cellulose
- Answer : D

- D glucose, L Glucose-> orientation OH at C5

- Oligosaccharide is present in beans and vegetables like cabbage, Brussel, sprouts, broccoli, asparagus Raffinose

- Lipid Past Paper

- All of the following eicosanoids containring structure EXCEPT:
- A.Prostaglandin H2
- b.Prostacyclin
- c.Leukotriene
- d.Thromboxane
- e.Prostaglandin E2
- Answer : C

- Which of the following does NOT contain sphingosine:
- a.Globoside
- b.Ceramide
- c.Phosphatidyl choline
- d.Sphingomyelin
- e.Galacto-cerebroside
- Answer : C

- Cholesterol CANNOT be used tosynthesize:
- a.Vitamin D
- b.Cardiolipin
- c.Progesterone
- d.Estrogen
- e.Bile acids
- Answer : B

- The bond between fatty acids andglycerol in triacylglycerol is a/an:
- a. Glycosidic bond
- b.Amide bond
- c. Ester bond
- d.Peptide bond
- e. Alpha-1,4 bond
- Answer :C

- Ether bond is found in
- .A.plasmalogen
- b.lecithin
- c.phosphatidyl serine
- d.cerebroside
- e.sphingomyelin
- Answer : A

- The following lipid can be used as an emulsifier:
- a.Phosphatidylcholine
- b.Phosphatidic acid
- c.Phosphatidylinositol
- d.Ceramide
- e.Phosphatidylethanolamine
- Answer : A (lecithin)

- Cholesterol molecule affects:
- a.The ability to anchor proteins
- b.Kink formation in phospholipid tails
- c.Membrane permeability
- d.Trans-fat formation
- e.Membrane fluidity
- Answer : E

- The lipoprotein that has the highest lipidcontent and the lowest protein content is:
- a.HDL
- b.VLDL
- C.IDL
- d.LDL
- e.Chylomicron
- Answer : E

- The following eicosanoid has cyclic ethers in its structure:
- a.Leukotrienes
- b.Prostaglandins
- C.Arachidonic acid
- d.Prostacyclins
- e.Throbmoxanes
- Answer : E

- Which of the following membrane lipidsdoes NOT contain a phosphate group?
- a.Ceramide
- b.Sphingomyelin
- C.Lecithin
- d.Plasmalogen
- e.Cardiolipin
- Answer : A

- On of the following is not a property of glycerol:
- A.yellowish
- B. sweet taste
- c.positive acrolien test
- D.synthesized by glucose
- E.can be converted to glucose
- Answer : A

- Which of the following is not considered a nitrogenous base in the structure of lipids :
- A.glycerol
- B.ethanolamine
- C.serine
- D.threonine
- E.sphingosine
- Answer : A

- Which of the following fatty acids has the highest melting point :
- A. palmitic acid
- B.palmitoliec acid
- C.stearic acid
- D.oleic acid
- E.linoleic acid
- Answer : C

- The most abundant type of lipids in nature are :
- A.TAG
- B.phospholipid
- C.cardiolipin
- D.lecithin
- E.waxes
- Answer : A

- Snake venom attacks :
- A.Lecithin
- B.cardiolipin
- C.cephalin
- D. sphingomyelin
- E.gangliosides
- Answe: A

- All of the following are derivatives of the steroid ring EXCEPT :
- A.vit-D
- B.cholic acid
- C.cholestertol
- D.testosterone
- E.chylomicrons
- Answer : E

- NSAIDS drugs inhibit the conversion of ---------- into different types of eicosanoids . The blank space refers to :
- A.arachidonic acid
- B.palmitic acid
- C.linoleic acid
- D.oleic acid
- E. linolenic acid
- Answer : A

- One of the following is correctly matchedwith its structure.
- a. palmitic acid 18:249,12
- b.linolenic acid 18:3A9,12,15.
- c.arachidonic 20:2A9,12.
- d.palmitoleic16:2A9,12.
- e.oleic acid 18:2A9,12
- Answer : B

- Cholesterol molecule affects:
- a.The ability to anchor proteins
- b.Kink.formation in phospholipid tails
- C.Membrane permeability
- D.Trans-fat formation
- E.Membrane fluidity
- Answer: E

Amino Acids and protein structure Past Paper

- This amino acid is a precursor of a methyl donor
- A.Alanine
- B.Valine
- C.Threonine
- D.Methionine
- E.Tyrosine
- Answer : D

- This amino acid has a non-reactive group
- A. Cysteine
- B. Glutamine
- C.Leucine
- D.Serine
- E.Tyrosine
- Answer : C

- This is NOT a derivative of tyrosine :
- A.melatonin
- B.Thyroxine
- C.melanin
- D.Dopamine
- E.Tyramine
- Answer: A

- What is the isoelectric point of cystine:
- A. 3
- B. 4
- C. 5
- D. 6
- E. 7
- Answer : C

- Which of the following Does NOT represent a peptide that might be present inyour body?
- a.Arg-Pro-Pro-Gly-Phe-Ser-Pro-Phe-Arg
- b.Glu-Cys-Gly
- c.Asp-Arg-Val-Tyr-lle-His-Pro-Phe
- d.Mor-His-Pro
- e.Glu-His-Pro
- Ans: D

- The amino acid that provides proteins with the greatest buffering capacity at physiological pH is:
- a.Arginine
- b.Aspartate
- c.Asparagine
- d.Histidine
- e.Glutamate
- Ans: D

- The chemical formula NH2-CH2-COOH refers to:
- a.A fatty acid
- b.No answer refers to that formula
- C.An amino acid
- d.A ketoacid
- e.A monoamine
- Ans: C

- One of the following is TRUE in regards to prion disease
- a.The disease can be inherited
- b.The disease is caused by defective chaperones
- c.The defective prion protein disrupts proteinsynthesis
- d.It is a human-specific disease
- e.The prion protein does not have a tertiarystructure
- Ans:A

- Cysteines play an important role in the formation of the quaternary structure of this protein
- a.Myoglobin
- B.Immunoglobulin
- c.Collagen
- D.Carbonic anhydrase
- e.Hemoglobin
- Ans: B

- This type of amino acids preferentially
- exists in beta-sheets but not alpha helices
- a.Aromatic amino acids
- b.Non-polar, aliphatic amino acids
- c.Polar amino acids
- d.Proline and glycine
- E.Amino acids with branching at the beta-carbon
- Ans: E

- Beta-alanine is part of this molecule
- a.Oxytocin
- b.Aspartame
- c.Carnosine
- d.Glutathione
- e.Elastin
- Ans: C

- The secondary structures that make up domains are stabilized by
- a.Proline residues
- b.Disulfide bonds
- c.Hydrogen bonds
- d.R groups
- E.Prosthetic groups
- Ans: C

- Amphipathic alpha-helices exist in
- a.Membrane receptor with a single transmembrane domain
- b.Cysteine-richproteins with disulfide bonds
- c.Conjugated, multimeric proteins
- d.Ion channels
- E.Extracellular proteins
- Ans: D

- Patients with phenylketonuria are advised to ingest an aspartame-like sweetener with phenylalanine replaced by
- a.Alanine
- b.Tryptophan
- c.An amino acid analog
- d. Valine
- e.Tyrosine
- Ans : A

- A defect in chaperones will result inabnormal
- a.Enzymatic function
- b.Protein localization in cells
- C.Protein folding
- d.Protein denaturation
- e.Protein modification
- Ans: C

- Alatame is used as an alternative sweetener to aspartame because it does NOT contain this amino acid
- a.D-alanine instead of L-alanine
- b. Aspartate
- c. Asparagine
- d. Tyrosine
- e. Phenylalanine
- Ans: E

- All of the following bonding forces are important in maintaining the tertiary structure of a protein EXCEPT
- a.Peptide bonds
- B.Hydrophobic interactions
- C.Electrostatic interactions
- d.Van der Waals bonds
- e.Disulfide bond
- Ans: A

- The oxygen binding site in myoglobin orhemoglobin is a type of
- a.secondary structural element
- b.quaternary structure
- C.tertiary structural element or domain
- d.motif
- e.supersecondary structure

Ans:C

- Which amino acid would you expect to find in the middle of an integral protein embedded in the phospholipid bilayer?
- a.Leu
- b.Arg
- C.Tyr
- d.Glu
- e.Ser
- Ans: A

- What is the net charge of "Ile-His-Ser-Glu-His-Tyr-His" peptide at pH=12?
- a.-2
- b.+2
- C.-1
- d.0
- e.+1
- Answer : A (it maybe -3)

- What is the net charge of "lle-His-Ser-Glu-Arg-Ala-His" peptide at pH 6?
- a-1
- b+2
- C.+1
- D.0
- e-2
- Ans: C

- Which of the following is a correct match between product and precursor amino acid
- a) Epinephrine, Tyr
- b) Dopa, Thr
- c) Serotonin, Arg
- d) GABA, Gin
- e) NO, Gly
- Answer : A

- Proline can present within -> Turn
- Not favorable within B-sheet -> Glutamate
- N-linked -> ASN
- Not true about disulfide bond -> denaturedby detergents
- True about tertiary structure-> single polypeptide
- Spanning integral membrane-> hydrophobic+ non polar amino acids

Plasma proteins PPQ :

- select the one of the following statements that is NOT CORRECT:
- A. Albumin is synthesized as a preproprotein
- .B. Albumin is stabilized by multiple intrachain disulfide bonds
- .C. Albumin is a glycoprotein
- .D. Albumin facilitates the movement of fatty acids through thecirculation
- .E. Albumin is the major determinant of plasma osmotic pressure
- .Ans : C

- Select the one of the following statements that is NOT CORRECT:
- A. Wilson disease caused by increased the concentration of the Ceruplasmin in blood
- B. Wilson disease is characterized by copper toxicosis (abnormallyhigh levels of copper).
- C. Wilson's disease is an autosomal recessive genetic disease.
- D. Wilson caused bronzy skin and eyes tissue
- Ans :A

- The functions of plasma albumin are:
- (A) Osmosis
- (B) Transport
- (C) Immunity
- (D) both (A and (B)
- Ans : D

- In one molecule of albumin the number of amino acids is:
- (A) 510
- (B) 585
- (C) 610
- (D) 650
- Ans : b

- Ceruloplasmin is:
- (A) a1-globulin
- (b) ß-globulin
- (c) a2-globulin
- (D) None of these
- Ans : c

- In the total proteins, the percentage of albumin is about:
- (A) 20-40
- (b) 50-60
- (c) 30-45
- (D) 80-90
- Ans : B

- -Molecular weight of human albumin is about:
- (A) 156,000
- (b) 69,000
- (c) 90,000
- (D) 54,000
- Ans : b

- Albumin is involved in the transport of all of the following except:
- A) Free fatty acids
- B) Aspirin
- C) Steroids
- D) Some cations
- E) Hemoglobin
- Ans: E

- A deficiency in which of the following proteins causesWilson disease:
- A) Ceruloplasmin
- B) Albumin
- C) C reactive protein
- D) Haptoglobin
- E) Alpha 1 antitrypsin
- Ans : A

- Choose the correctly matched pair of words:
- A) Liver disease - Increased albumin concentration
- B) Bacterial infection - Decreased C reactive protein concentration
- C) Increased alpha 1 antitrypsin concentration -trypsin inactivation
- D) Smoking - oxidation of methionine in elastase
- E) C+D
- Ans : C

- Choose the mismatched pair among the following:
- A) Hemolytic anemia - Elevated Haptoglobin levels
- B) Acute inflammation - Elevated C-reactive protein levels
- C) PiZZ genotype - Decreased activity of Alpha 1 antitrypsin
- D) Down syndrome - Low alpha 1 fetoprotein levels
- E) None of the above
- Ans : A

- True about Prealbumin:
- A) Migrates at a lower speed than albumin in gel electrophoresis
- B) Converted to albumin after cleavage of hexapeptide
- C) Is a sensitive marker of protein malnutrition due to its longhalf-life
- D) A+B
- E) None of the above
- Ans :E

- Which of the following proteins would you least expect to beinitially tagged with an N-terminal signal peptide:
- A) Fibrinogen
- B) Hemoglobin
- C) Albumin
- D) Alpha globulins
- E) Gamma globulins
- Ans : B

- Which plasma protein binds iron?
- A) Fibrinogen
- B) Albumin
- C)Transferrin
- D)Gamma-globulins
- E)Haptoglobin
- Ans : C

- -What is the most abundant plasma protein in normalindividuals?
- A)alpha1-antitrypsin
- B)haptoglobin
- C)albumin
- D)gamma globulin
- E)fibrinogen
- Ans : C

- Which major class of plasma proteins is not synthesized in theliver?
- A)alpha1-antitrypsin
- B)haptoglobin
- C)albumin
- D)gamma globulin
- E)fibrinogen
- Ans :D

- Alpha-Thalassemia, one of the following is TRUE
- A- Underproduction of B-globin chains
- B- Hb Bart is produced in the fetus
- C- It is mostly fatal
- D-Except for HbA2 all hemoglobin's will be affected
- E- After the first few months of life, HbH diminishes
- Ans :E

- The normal reference range for total plasma proteins is
- A- 2.5 -4.5 gm dI
- B-6.0-8.0 gm/dl
- C-3.5-5.5 gm/dI
- D->8.0 qm/dl
- E- 4.5-6 gm/dl
- Ans : B

- Plasma proteins classified as albumin (A) and globulins (G) where thelower limit for the normal AG ratio is 0.8, This ratio might fall below 0.8 in:
- A- Analbuminemia
- B- Dehydration
- C-Acute inflammation due to infection
- D-Chronic inflammation due to infection
- E- Liver cancer
- Ans :A

- Which of the following protein has a half-life of approximately 48 hoursand is also a biomarker for acute hepatic failure or malnutrition?
- A- Albumin
- B- Haptoglobin
- C-Transthyretin
- D- Ceruloplasmin
- E- A and D both
- Ans : C

- Which of the following is NOT transported by Albumin?
- A- Sodium
- B- Lead
- C- Calcium
- D- Copper
- E- Mercury
- Ans : A

- Very important notes about plasma proteins
- :*Ceruloplasmin —> related to copper
- *Haptoglobin —> related to hemoglobin
- *in positive acute phase —> CRP and fibrinogen
- * in negative acute phase —> albumin and prealbumin (transthyretin I3 and I4) and transferrin
- * we can’t consider prealbumin the inactive from to albumin , the correct inactive form to albumin is proprealbumin

- Globular and fibrous proteins PPQ :

- Covalent interactions are important in the formation of the quaternary structure of all of these proteins EXCEPT
- a.Elastin
- b.Collagen
- c.Immunoglobulin
- d.Hemoglobin
- e.Keratin
- Ans : D

- How many bands would be produced when IgG is subjected to denaturing, reducing SDS-PAGE?
- a.2
- b.3
- c.No bands will be detected
- d.4
- e.1
- Ans : A

- In hemoglobin, the transition from T state to R state is caused by:
- a.Oxygen binding
- b.Subunit association
- c.Fe2+ binding
- d.Heme binding
- e.Subunit dissociation
- Ans : A

- One of the following is NOT TRUE in regards to immunoglobulins
- a.All immunoglobulins interact with antigens via non-covalent bonds
- b.Heavy and light chains are linked to each other via covalent bonds
- c.All immunoglobulins exist in multimeric forms
- d.All immunoglobulins can have five different major forms of heavy chains
- e.All immunoglobulins are associated with the cell surfaces of B cells
- Ans : E

- One of the following is NOT true to fibrous proteins
- a.Glycine and proline residue are abundant in collagen, elastin, and keratin proteins.
- b.Disulfide bonds within keratin are the reason for having curly hair.
- c.Hydroxyproline in collagen is necessary for its stability.
- d.Collagen is glycosylated at hydroxylysine residues.
- e.Lysine is involved in crosslinking elastin molecules
- Ans : A

- The heme group of hemoglobin
- a.Associates the iron atom only when oxygen is bound
- b.binds oxygen only when bound with Fe3+ atom
- c.is bound to hemoglobin via salt bridges
- d.is positioned in the center of the four hemoglobin subunits
- e.is known as a prosthetic group
- Ans : E

- The oxygen binding site in myoglobin or hemoglobin is a type of
- a.secondary structural element
- b.quaternary structure
- c.tertiary structural element or domain
- d.motif
- e.supersecondary structure
- Ans : C

- What is the important difference between hemoglobin (Hb) and myoglobin (Mb)?
- a.Mb carries more oxygen molecules than Mb
- b.Hb binds oxygen more tightly than Mb
- c.Mb is monomeric but Hb is multimeric
- d.Their tissue distribution is different
- e.Hb folds into alpha-helices but Mb folds into beta strandsClear my choice
- Ans : C

- The sigmoidal shape of the oxygen saturation curve of hemoglobin indicates that
- a.Hemoglobin is a holoprotein
- b.Hemoglobin is an allosteric protein
- c.Hemoglobin is a hetero-multimeric protein
- d.Hemoglobin has a prosthetic group
- e.Hemoglobin is a conjugated protein
- Ans : b

- One of the following is NOT true in regards to immunoglobulins
- a. They are used in ELISA
- b. Their banding pattern is different in reducing versus non-reducing SDS-PAGE
- c. They have very high specificity towards their target molecules
- d.If they were abzymes, they are considered metalloenzymes
- e.They are excellent in purifying proteins by affinity chromatography
- Ans : d

- The reason why myoglobin cannot be allosteric is because
- a. Myoglobin binds with a strong affinity to oxygen
- b.Myoglobin is a conjugated protein
- c.Myoglobin is a muscle-specific protein
- d.Heme does not change shape when it binds oxygen
- E.Myoglobin is monomeric
- Ans : e

- Decarboxylation of histidine results in the formation of
- a.A monoamine molecule
- b.A sedative molecule
- c.An excitatory neurotransmitter
- d.An Innipor neurransm
- e.An anti-allergic molecule
- Ans : A

- he rate-limiting step in Kreb's cycle is the step of converting isocitrate into alpha-ketoglutarate byisocitrate dehydrogenase, which releases NADH and CO2 as products. This enzyme
- a.Can be an abzyme
- b.Might be referred to as 4.1.1.42
- c.Can be a ribozyme
- d.Has a quaternary structure
- e.RequIres COA
- Ans: E

- cysteines play an important role in the formation or the quaternary structure or this protein
- a.Myoglobin
- b.Immunoglobulin
- C.Collagen
- D.Carbonic anhydrase
- e.Hemoglobin
- Ans : B

- Distal histidine has this significant role in hemoglobin
- a.It covalently links the heme group to hemoglobin
- b.It prevents the entry of carbon monoxide into the heme binding core
- c.It makes the affinity of hemoglobin to carbon monoxide lower than that of oxygen
- D.it reduces iron when oxygen is released and iron is oxidized
- e.it stabilizes oxygen binding to heme via the formation of hydrogen bonding with it
- Ans : E

- The following residue of collagen is important in intracellular signaling
- a.Proline
- b.Alanine
- c.Hydroxyproline
- d.Glycine
- e.hydroxylysine
- Ans : E

- The following is NOT important in packing collagen fibrils and fibers
- a.Hydroxylysine
- b.Hydroxyproline
- c.Allysine
- d.Proline
- e.Lysine
- Ans : E

- Temporary hair Styling involves
- a.Reformation of non-covalent interactions
- b.Dihydroxylation of amino acid residues
- c.Removal of sugar attachments
- d.Synthesis of more alpha keratins
- e.Reformation of covalent linkages
- Ans : A

- elastin fibers tend to aggregate back together after stretching due to
- a.The hydroxyproline residues
- b. The lysine crosslinks
- c.The attached carbohydrates
- d.The proline residues
- e.Their hydrophobic nature
- Ans : E

- What is the usual outcome of mutation in the amino acid residues on the surface of hemoglobin?
- a.Reduced oxygen binding
- b. Protein denaturation
- C.Protein aggregation
- D.Protein instability
- E.Usually nothing major
- Ans : E (not sure)

- This is how the propionate groups of heme molecules are positioned in both myoglobin and hemoglobin.
- A.They are covalent linked to distal histidine
- .B.They are oriented towards the exterior surface of the protein.
- C.They are covalently linked to proximal histidine
- .D.They are hidden inside the protein.
- E.They are linked to one of the internal alpha helices.
- Ans : B

- The use of reducing agents will NOT affect the bonding pattern in SDS-PAGE of the following protein:
- A.Immunoglobulin G
- B.Keratin
- C.Immunoglobulin M
- d.Hemoglobin
- E.Oxidized glutathione
- Ans : D (Hb cant form covalent bons = no disulfide bond)

- The main purpose of the hinge region of antibodies is:
- a. Antibody clearance
- b. Binding phagocytic cells
- C.Allowing better binding to antigen
- d. Site of sugar binding
- E.Binding to antigenic epitopes
- Ans : C

- Lysine, allysine, and hydroxylysine are important in cross-linking collagen molecules, but in elasatin. Cross-linking occurs due To-
- a. Hydroxyproline
- b. Lysine and allysine only.
- C.All three molecules as well
- .d. There is no cross-linking in elastin fibers
- .E.Cysteine residues
- Ans : B

- Class switching involves:
- A.Changing the hypervariable region of antibodies.
- B.Changing the constant region of antibodies only.
- C.Changing the variable region of antibodies only.
- d. Changing the B cells that produces the antibodies.
- E.Changing both the variable and constant regions of antibodies.
- Ans :C

- Protofibrils are composed of?
- A.Two protofilaments
- B.Two alpha keratin chains
- C.Two intermediate filaments
- D.Two alpha keratin tetramers
- E.Two coiled coil keratin dimers
- Ans : A

- One of the following is TRUE in regard to carbon monoxide (CO) binding toheme/hemoglobin:
- A.The affinity of oxygen binding to hemoglobin increases when CO is bound to at least oneheme of hemoglobin.
- B.CO can form carbamates with hemoglobin.
- C.The affinity of binding of CO to hemoglobin becomes less than that of oxygen's whenheme is part of hemoglobin.
- D.Proximal histidine forces CO to form a bent bond with heme.
- E.CO influences the pKa of His146 of the beta chain of hemoglobin.
- Ans : A (THEY BIND AT SAME ACTIVE SITE)

- Which of the following is FALSE considering immunoglobulin classes?
- A- IgG is the first to be released
- B- IgE can activate complement proteins
- C- IgD cannot cross the placenta
- D- IgA is the most abundant in blood
- E- IgM is usually a pentamer
- Ans : A

- The role of the Fc fragment of any antibody molecule is
- A-To detect, bind and precipitate the antigen
- B-To block interactions between host and pathogen
- C-To block the active sites of toxins
- D-To activate intracellular cell signaling molecules
- E -None of the above
- Ans :d

- The order of quantity (largest to smallest) of total immunoglobulin inserum is
- A- IgM. IgA. IgG. IeD, IgE
- B- IgG. IgM, IgA, IgE, IqD
- C- IgG. IgA, IgM, IgE, IgD
- D- IgA. IgM, IgG, IgD, IgE
- E- IgG, IgA, IgM, IgD, IgE
- Ans : E

- Enzymes PPQ (most important topic !!)

- According to what you have studied, the best enzyme to investigate for in the third day of infarction is:
- a.Total CK
- b.CK-MB
- c.LDH1/LDH2
- d.LDH1
- e.Total LDH
- Ans : C

- An allosteric interaction between a ligand and a protein is one in which:
- a.Two different ligands can bind to the same binding site.
- b.Multiple molecules of the same ligand can bind to the same binding site.
- c.Binding of a molecule changes the structure of the protein.
- d.Binding of a small molecule affects binding of additional molecules to the same site.
- e.Binding of the small ligand to the protein is covalent.
- Ans : C

- Considering the enzyme “Alcohol Dehydrogenase”, what is true?
- a.More than one answer is true
- b.May be referred to as 3.2.1.1
- c.Requires FAD
- d.Requires Se
- e.Requires Zn+2
- Ans: E

- One of the following factors does NOT affect the effect of diffusion in enzymatic reactions
- a.Phosphorylation
- b.Temperature
- c.Formation of enzyme complex
- d.Membrane binding of enzyme and substrate
- e.Compartmentalization
- Ans : A (not sure)

- ne of the following is a precursor for the synthesis of FAD
- a.Biotin
- b.Acetyl group
- c.Pantothenic acid
- d.None of the answers is a precursor
- e.Niacin
- Ans : D (its precursor is Flavin = Vit –B2)

- One of the following is NOT true in regards to isozymes
- a.They may have different affinities for their substrate(s)
- b.They may be regulated differently
- c.They may catalyze different reactions using the same substrate
- d.They are produced from different genes
- e.They may function in different tissues
- Ans : C (its same substrare with same product)

- Suppose you have an imaginary reaction catalyzed by the enzyme Medicinase. Repeating the reaction in presence of a competitive inhibitor will:
- a.Change the K2 value
- b.Change the y-intercept on a lineweaver-burk plot
- c.Change the actual affinity toward the substrate
- d.Increase the specificity constant
- e.Change the Kcat value
- Ans : C (change the affinity due to change Km)

- uppose you have different four reactions each is catalyzed by a different enzyme “an oxidoreductase, a lyase, a hydrolase, and an isomerase”. What might be shared in between these four reactions?
- a.The involvement of two substrates and two products
- b.The appearance of a hydroxyl group on a carbon in the product
- c.The appearance of a hydroxyl group on a carbon in the substate
- d.The occurrence even in the absence of these enzymes
- e.The exergonic nature of the reactions
- Ans : B

- Typically, one of the following characterizes enzymes' active sites
- a.Large active sites usually have two separate, independent sites, catalytic and binding
  b.They possess multiple strong attraction forces to physiological substrates
- c.They are found on enzymes’ surface
- d.They possess a minimum of two binding points to substrate
- e.They are comparable in size to the rest of the enzyme’s structure
- Ans : A

- You performed an experiment on an enzyme that follows Michaelis-Menten kinetics with a Km value of 0.50 uM. Then, the Vmax of this enzyme:
- a.Can be achieved at a substrate concentration of 2 uM
- b.Does not change in value if substrate concentration is 0 uM
- c.Can be achieved at a substrate concentration of 1 uM
- d.Can be achieved at a substrate concentration of 1.5 uM
- e.Does not change in value if half of the enzyme concentration is used
- Ans : A (substrate conc is way more than Km)

Which statement is FALSE regarding enzyme activity:

A -The maximum catalytic activity is highly dependent on pH and temperature

B- The reaction rate increases as PH increases until it reaches the maximum

C- The reaction rate increases as temperature increases until it reaches amaximum

D-The reaction rate increases as enzyme concentration increases

E- reaction ate increases as substrate concentration increases until it reaches amaximum Vmax

.Ans : B (TRICKY QUESTION)

- In cells, the level of activity of an enzyme is naturally regulated over long periods by:
- A- Regulation of the rate of synthesis of the enzyme
- B-Allosteric binding of a small molecule to the enzyme
- C- Covalent modification at that active site of the enzyme
- D- Feedback inhibition of the enzyme
- E- Modulating the kcat of the enzyme
- Ans : A

- When }S]=0.1*km the velocity of enzyme catalyzed reaction is about:
- A- 0.1 Vmax
- B- 0.3 Vmax
- C-0.5 Vmax
- D- 0.7 Vmax
- E- 0.9 Vmax
- Ans : A

- The reaction A+B-C the rate equation is = K[A], according to what youhave studied in the enzymology class, which statement is true:
- A- plot of [A] against time is linear
- B- plot of [B] against time is expontial
- C- the rate depends on concentration of B
- D-the rate depends on concentration of A
- E- the unit of rate equation is (time)-1
- Ans : D

- One of the following is a suicide inhibitor
- A –Penicillin
- B-Malathion
- C-Parathion
- D-Sarin
- E-Aspirin
- Ans : A

- Suicide inhibits are all of the following EXCEPT:
- A -They are drugs that inhibit vital enzymes and are used in suicide attempts ofpeople
- B- They irreversibly bind to the active sites of enzymes
- C- They undergo partial reaction by enzymes
- D- Their structure is similar to the structure of substrate
- E- Their structure is similar to the structure of transition states
- Ans : D

- Biding of the inhibitor disopropyithurophosplate (DIEP) to some enzymesacetylcholinesterase:
- A-Is reversible
- B- Occurs at the active site
- C- Increases KM
- D- Does not affect Vmax
- E -B and D are both correct
- Ans : B (IN GENERAL , INHIBITORS BIND AT THE ACTIVE SITE)

- According to what you have studied, the best enzyme to Investigate forin the first day of infarction is:
- A-Total LDH
- B- CK-MB
- C- Total CK
- D-LDHI
- E- LDHI/LDH2
- Ans :B

- What exactly does change when a competitive inhibitor is added to anenzyme?
- A- K-1 value
- B-Kcat value
- C- K2 value
- D- K1 value
- E- Y-Intercept on a Line Weaver-Burke plot
- Ans : D (BE CAREFUL THAT K2 = Kcat *-*)

- A 20-year-old female patient came to the dental clinic complaining ofseverely gum. The patient informed the dentist that she had multiplespontaneous bleedings from her gummi as well as bruises on her lower & upperlimbs over the past few months One of the causes that could lead to hercondition is:
- A- The genetic deficiency of the lysyl oxidase enzyme
- B- The genetic deficiency of the lysyl hydroxylase enzyme
- C-The genetic deficiency of prolyl hydroxylase enzyme
- D-The acquired deficiency of Vitamin C from her diet
- E- All answers could lead her condition
- Ans : E (I GUESS , THE QUESTION IS DELETED , CUZ IT’S INCORRECT)

- Which statement is False regarding protein kinase A (PKA)?
- a) Its activity is dependent on cellular levels of cyclic AMP
- b) It has a role in regulating carbohydrates and lipid metabolism
- c) It consists of two requlatory subunits and two catalytic subunits
- d) Phosphorylation of the phosphodiesterase enzyme increases PKA activity
- e) Binding of cAMP causes dislocation of the regulatory subunits
- Ans : D

- All of the following are True regarding aspartate transcarbamoylase(ATCase) Except :
- a) It consists of six catalytic subunits and six regulatory subunits
- b) The allosteric binding sites are located on the catalytic subunits
- c) It displays a cooperative substrate binding behavior
- d) CP inhibits ATCase through a feedback mechanism
- e) ATP is considered an allosteric activator of the enzyme
- Ans : B

- You may define a high value of Km as:
- a) Low affinity of the enzyme for the substrate
- b) High affinity of the enzyme for the substrate
- c) Low affinity of the substrate for the enzyme
- d) High affinity of the substrate for the enzyme
- e) A and C are both correct
- Ans : A

- The following enzyme (1.1.1.81) might be:
- a) ATP/ADP translocate
- b) Aldolase
- c) Glycosylate reductase
- d) Glycogen phosphorylase kinase
- e) Pepsin
- Ans : C

- A 1-year baby is subjected to the ER with blue colored skin, his parentssaid that the color was for 24 h, no treatments were given to the baby the last 6months, the cause of the blue skin is:
- a) inherited deficiency in methemoglobin reductase
- b) nitrate drugs toxicity
- c) baby can crawl and ingested fertilizer
- D) non of the above
- Ans : C

- Notes :
- All the following is true about heme except
- The oxidized heme spectrometer is about 300 nm
- All the following is true about hemoglobin regulation except
- Hb fetal has higher affinity towards 2,3 BPG compared to adult hemoglobin
- Why do we need hemoglobin
- Because oxygen is insoluble

- One of the following is a precursor for the synthesis of CoA
- a.Biotin
- b.None of the answers is a precursor
- c.Acetyl group
- d.Pantothenic acid
- e.Niacin
- Ans : D

- If you were told that glycogen phosphorylase enzyme is an allosteric enzyme, then:
- a.CAMP activates glycogen phosphorylase directly
- b.Glycogen phosphorylase kinase is an allosteric enzyme as well
- c.Epinephrine binding eventually results in a larger L ratio
- d.No answer is true
- E.Active phosphatase results in more T state of the phosphorylase than the R state
- Ans : E

- Which of the following statements considering hexokinases is TRUE?
- a.Hexokinase I efficiency will decrease dramatically in fasting
- b.The main mechanism of regulation of hexokinase IV (glucokinase) is feedback inhibition
- c.Increasing Hexokinase I or IV concentration increases their Kcat value
- d.Km value is identical for hexokinases I and IV under high substrate concentration
- e.No answer is true
- Ans : E (not sure)

- The rate-limiting step in Kreb's cycle is the step of converting isocitrate into alpha-ketoglutarate byisocitrate dehydrogenase, which releases NADH and CO2 as products. This enzyme
- a.Can be an abzyme
- b.Might be referred to as 4.1.1.42
- c.Can be a ribozyme
- d.Has a quaternary structure
- e.RequIres COA
- Ans : E

- 1 uM solution of glutathione peroxidase is present in solution with its proper substrate and atsaturating conditions. The product formed at a rate of 0.5 M/s.If the reaction is gone to completion.then:
- a.Kcat equals 0.000002 per second
- b.The product concentration is half of that of the substrate
- c.Oxygen is incorporated into the substrate
- d. The product is reduced and water is formed
- e.Kcat equals 5 million per second
- Ans: D (my lovely Q’s <3 □ there is no need to calculate anything)

- Considering the enzyme "Carbonic anhydrase", what is true? (choose the best answer)
- a.May be referred to as 3.2.1.1
- b.Requires Zn+2
- c.More than one answer is true
- d.Requires TPP
- e.Requires Se
- Ans : b

- The enzyme glycogen phosphorylase may be referred to as
- a.3.4.23.1
- b.5.3.1.1
- c.7.1.1.2
- d.1.1.1.1
- e.2.4.1.1
- Ans : E

- The followine DOES NOT characterize enzymes' active sites
- a. Typically, they look like a pocket, canal, or crevice
- b.They possess multiple weak attraction forces to physiological substrates
- C.Compared to the rest of the enzyme's structure, they are comparable in size
- d.Large active sites usually have two separate, independent sites, catalytic and binding
- e.They possess a minimum of three binding points to substrates
- Ans : C

- One of the following might be in the inactive state
- a.Pepsin
- b.trypsin
- c.thromoin
- D.Ras
- E.fibrin
- Ans : D

- imaginary reaction catalyzed by the enzyme Medicinase has the following values: the association rateconstant of E and S into ES is 4/MMs, the dissociation rate constant of ES into E and S is 6/s, and thedissociation rate constant of ES into E and P is 14/s. Accordingly:
- a.The Km value is close to the physiological range
- b. The specificity constant is larger than one
- c.None of the answers is true
- d.Kcat value is close to the catalase enzyme
- e.The actual affinity is very higher
- Ans : b

- if you are shown a figure that illustrates the behavior of a simple enzyme where: (1) the X-axisrepresents substrate concentration and the Y-axis represents initial reaction rate and (2) shown in thefigure are 2 hyperbolic plots, both of which reach the same max value. Then, the figure represents theenzyme: (choose the best answer)
- a.Using different enzyme concentrations
- B.With more than one substrate
- C.Under normal and competitive inhibition effect
- D.Under normal and non-competitive inhibition effect
- E.More than one answer
- Ans : C

- Rate limiting steps are: (choose the best answer)
- a. Usually, not a committed step
- b.Characterized by a low affinity of the substrate toward the enzyme's active site
- C. More than one answer is true
- d.Usually requiring a high amount of energy
- e.reversible RXN
- Ans : C (b+d are correct)

- You performed an experiment on an enzyme that follows Michaelis-Menten kinetics with a Km value of0.01 uM. The velocity of this enzyme at a substrate concentration of 10 uM is approximately at:
- a.90% of Vmax
- B.0.0001 ofVmax
- c.50% of Vmax
- d.its Vmax
- e.33% ofVmax
- Ans : D

- To which class of enzyme does an enzyme that catalyzes this reaction (A+B+ATP > A-B+ADP +Pi) belong?
- A.Oxidoreductase
- B.Hydrolase
- C.Ligase
- D.Lyase
- E.Transferase
- Ans : C

- The reason why enzymes need to bind to substrates at, at least, three points is:
- A.To ensure high affinity of binding.
- B.To catalyze reaction faster.
- C.To differentiate isomers of substrates.
- D.To allow binding to more than one substrate.
- E.To allow for electron rearrangement of substrates
- .Ans : C

- The phosphate groups of thiamin pyrophosphate and ATP requires this to bind to activesites of enzymes:
- A.They do not need a mediator
- .B.Coenzyme A
- C.Zinc ion
- D.FADH2 or NADH
- E.Magnesium ion
- Ans : E

- Lactate dehydrogenases 1 (all H) and 5 (all M) differ in all of the following EXCEPT:
- a. Tissue distribution
- B.Isoelectric point
- C.Regulation
- d. Substrate preference
- E.Overall quaternary structure
- Ans : E

- An enzyme inhibitor binds to a regulatory site and alters the active site preventing thesubstrate from binding. What is true about this inhibitor?
- A.It decreases both Km and Vmax.
- B.It is a non-competitive inhibitor.
- C.It increases Km and decreases Vmax.
- D.It is a suicide inhibitor.
- E.It is an uncompetitive inhibitor.
- Ans :B

- One of the following is NOT true in regard to small monomeric G proteins:
- A.They are active when GTP replaces GDP
- B.GTP-exchange factors activate the proteins.
- C.GTPase activating proteins inhibit these proteins.
- D.GDP dissociation inhibitors are activators of the proteins.
- E.They get inactivated when GTP is released and replaced by GDP
- .Ans :E

- One of the following is NOT true in regard to rate-limiting reactions
- A.They are reversible.
- B.They are driven by highly regulated enzymes.
- C.They are driven by consuming energy.
- d. They are slow reactions.
- e. They are driven by enzymes with relatively low affinity to their substrates.
- Ans : A

Protein purification PPQ :

- How many bands would be produced when IgG is subjected to denaturing, reducing SDS-PAGE?
- a.2
- b.3
- c.No bands will be detected
- d.
- 4e.1
- Ans : A (but if the question asks about Hb , the answer will be 1)

- In anionic exchange chromatography, if the pH of the mobile phase is 7. Which of the following sets of amino acids would be eluted (in order)?
- a.Glu, Asp
- b.His, Lys, Arg
- c.No answer describes the correct elution order
- d.Asp, Glu
- e.Arg, Lys, His
- Ans : A (the PI of Glu is Larger than PI of Asp will be eluted firstly becasuse its less negative than Asp)

- Starting from a crude sample, you have purified an enzyme using dialysis. Upon running SDS-PAGE electrophoresis, there were 2 bands; one at 70 KDa and the other is at 10 KDa. Under reducing conditions, there were also two bands, one at 35 KDa and the other at 10 KDa. What does that tell you about the structure of the enzyme?
- a.The enzyme might be a homodimer
- b.The enzyme might be a heterotetramer
- c.The enzyme might be composed of a single subunit of 80 Kda
- d.The enzyme might be a heterotrimer
- e.The enzyme might be composed of a single subunit of 70 KDa
- Ans : D

- Theoretically, sickled hemoglobin, compared to normal hemoglobin, is characterized by (choose the best answer):
- a.Can be separated from normal hemoglobin using dialysis
- b.Can be separated from normal hemoglobin using affinity chromatography
- c.Having a different isoelectric point
- d.Lower affinity towards other sickled hemoglobin moleculesed
- e.Different banding pattern for all bands in SDS-PAGE electrophoresis
- Ans :E (very important)

- Treatment of the pentapeptide with cyanobromide generated two peptides, one is positively charged at pH 7 and another that is negatively charged at pH 7. Based on this, one of the following is a valid prediction of the peptide
- a.Phe-Lys-Val-Met-Asp
- b.Phe-Pro-Met-Val-Asp
- c.Val-Met-Asp-Phe-Lys
- d.Lys-Phe-Met-Asp-Val
- e.Lys-Asp-Met-Phe-Val
- Ans : D

- You have the following sequence of a peptide “Arg-Leu-Asp-Lys-Arg-Cys-Trp-Tyr-Lys-Arg”. After treating this peptide with pepsin, how many peptide fragments would be generated?
- a.1
- b.4
- c.3
- d.2
- e.Cannot be guessed
- Answer: D (doc asked about peptide fragment , not about single amino acid ,,, plzzz be sure to understand this Q ,, داييماا بتكرر ولازم تحفظوا كل انزيم وين بقطع , وتحدد اذا السؤال بسال عن عدد البيبتايد ولا عن عدد الامينو اسيد)
- plzzzzzzzzzzzzzzzzzzzzzzzzzzzzz

- In cation exchange chromatography , if the ph = 8, which of the following amino acids would be fully eluted ?
- a histidine
- b.Arginine
- c.Tyrosine
- d.Aspartic acid
- e.Cysteine
- Ans : B

- In molecular sieve chromatography
- a. The higher the solubility of the protein is, the later it elutes
- b. The output of elution is very crude
- c. The higher the molecular weight of the protein is, the later it elutes
- d. The protein to be purified is originally included in the stationary phase
- e.The molecular weight or the eluted proteins can be estimated
- Ans : E

- If you were told that chymotrypsin action on a decapeptide does not result in hydrolysis of that peptideThen, which of the following sequences might be part of the decapeptide?
- a.Ala-Thr-Asn-Phe
- B.All peptides might be part or the decapeptides
- c.lle-Tyr-Pro-His-Gly
- d.Arg-Asp-GIn-Trp
- e.Ser-Cys-Tyr-Pro
- Ans : B

- Starting trom a crude sample, you have puritied an enzyme using dialysis. Upon runnin? SDS-PAGEelectrophoresis, there were 2 bands; one at 60 KDa and the other was at 20 KDa. Under reducingconditions, there were also two bands, one at 40 KDa and the other at 20 KDa. What does that tell youabout the structure of the enzyme?
- a. The enzyme might be a heterotetramer
- b. The enzyme might be a heterotrimer
- c.The enzyme might be a homodimer
- d. The enzyme might be composed of a single subunit of 20 Kda
- e.The enzvme might be composed of a single subunit of 60KDa
- Ans : B

- You have the following sequence of a peptide "Arg-Pro-Asp-Lys-Arg-Cys-Trp-Tyr-Lys-Arg".After treating this peptide with trypsin, how many peptide fragments
- a.Cannot be guessed
- b.1
- C.4
- D.3
- E.2
- Ans : E (again , doc asked about peptide ..)

- Treatment of a peptide with trypsin generates a dipeptide that is positively charged atpH 7. Further treatment of this peptide with chymotrypsin generates two single aminoacids. The dipeptide iS:
- A.Asp- Lys
- B.Val- Met
- C.Arg- Pro
- D.Gly-Val
- E.Phe-Lys
- Ans: E

- This technique is NOT dependent on size of molecules
- .A.Polyacrylamide gel electrophoresis
- b. Dialysis
- C.Two-dimensional gel electrophoresis
- D.Isoelectric focusing
- E.Gel filtration chromatography
- Ans : D

- You have the following molecules: glycine, aspartate, sucrose, collagen, andhemoglobin. One of these statements is NOT correct:
- A.Aspartate is luted first from anionic exchange chromatography.
- b. Concanavalin A- bound beads in affinity chromatography can be used to purify sucrose.
- c. Dialysis can be used to isolate collagen and hemoglobin from the other molecules.
- d. Sucrose does not bind to beads of cationic exchange chromatography.
- E.Glycine comes out last in size exclusion chromatography.
- Ans : A

Good luck All <3