

FBQ1: The group of enzymes that cleave without the addition of water is known as _____

Answer: *Lyases*

FBQ2: Low molecular weight organic substances which enzymes could require for their catalytic activities are known as _____

Answer: *coenzymes*

FBQ3: The enzyme substrate theory in which the enzymes undergoes a conformation change to which the substrate binds is known as _____ theory

Answer: *induced fit*

FBQ4: The pH of a solution with hydrogen ion concentration of 0.0001 M is _____.

Answer: *4*

FBQ5: The basic distinguishing feature between peptide and protein is in respect to their _____.

Answer: *Molecular weight* ^

FBQ6: A _____ centre is a carbon atom to which four different functional groups are covalently linked.

Answer: *Chiral*

FBQ7: When an amino acid rotates the plane polarised light to the right is said to be _____

Answer: *Dextrorotatory*

FBQ8: $E + S \rightleftharpoons ES \rightarrow E + P$ Complete the given equation.

Answer: *ES*

FBQ9: An enzyme with code [EC 1.3.2.2] belongs to the class of enzymes called _____

Answer: *Oxidoreductases*

FBQ10: A complete catalytically active enzyme together with its bound co-enzyme and/or metal ion is called _____

Answer: *holoenzyme*

FBQ11: _____ are biopolymers of amino acids in which amino acids are joined by peptide bonds.

Answer: *Peptides*

FBQ12: The presence of a red colour with Millon's Reagent indicates the presence of the amino acid _____

Answer: *tryptophan*

FBQ13: The enzyme with code. [EC 3.2.1.18] belongs to the class _____

Answer: *hydrolases*

FBQ14: The part of an amino acid that gives it its unique property is the _____
Answer: *side chain*

FBQ15: The pH of a solution with 0.82 M hydrogen ion concentration is _____.
Answer: *13.9*

FBQ16: Calculate the pH of a solution with hydrogen ion concentration of 0.00456 M to the nearest whole number _____
Answer: *2*

FBQ17: Give the name of the amino acid with the given structure _____
Answer: *Alanine*

FBQ18: Calculate the pH of a buffer solution which is 0.05 M in sodium acetate and 0.1 M in acetic acid. The pKa for acetic acid is 4.73 _____ Å
Answer: *4.43*

FBQ19: The α - carbon in the amino acid lysine can also be referred to as in Arabic numeral as carbon atom _____
Answer: *2*

FBQ20: How many peptide residues are present in Glutathione?
Answer: *Three*

FBQ21: A solution that resists slight changes in pH when little amount of acid or base is added to it is known as _____
Answer: *Buffer solution*

FBQ22: In a linear peptide polymer, the end of the linear polymer with free α - amino group is known as _____ -
Answer: *N *terminal

FBQ23: How many amino acid residues are present in the peptide hormone oxytocin?
Answer: *8*

FBQ24: The first protein to be sequenced was _____
Answer: *Insulin*

FBQ25: Enzyme activity in the enzyme takes place an area known as _____
Answer: *Active site*

FBQ26: A widely used sequencing procedure that identifies amino acids singly, beginning with the N-terminal residues inwards is known as _____
Answer: *Edman Degradation*

FBQ27: Name the amino acid that gives a red coloured compound in Sakaguchi

Reaction _____

Answer: *Arginine*

FBQ28: Name the amino acid represented by the given structure _____

Answer: *Cysteine*

FBQ29: Name the amino acid represented by the given structure _____

Answer: *Phenylalanine*

FBQ30: In the formation of peptides, amino acids are linked together in a covalent bond known as _____

Answer: *Amide linkage*

FBQ31: In Gel filtration protein molecules are separated based on their shapes and _____

Answer: *size*s

FBQ32: The side chain in alanine is replaced with _____.

Answer: *Methyl group*

FBQ33: _____ are the building blocks of proteins.

Answer: *Amino acids*

FBQ34: The pigment responsible for coloration in the skin is _____

Answer: *Melanin*

FBQ35: How many functional groups are typical of an amino acid has _____.

Answer: *Four*

Multiple Choice Questions (MCQs):

MCQ1: One of these amino acid has an isopropyl R group _____

Answer: Alanine

MCQ2: When phenylalanine is available in the body, which of these amino acids can readily be formed?

Answer: Tyrosine

MCQ3: Lack of one of these amino acids in the diet will affect the synthesis of a new protein

Answer: Glutamate

MCQ4: Which of these amino acids is present in a test sample that gives a red colouration with Millions reagent?

Answer: Tryptophan

MCQ5: Which of these amino acids has an aliphatic side chain terminating with a basic group

Answer: Leucine

MCQ6: Which of the following is not true of the buffer action?

Answer: If acid is added, the conjugate base interacts with it to give water and so resist the change in the pH.

MCQ7: Calculate the pKa of lactic acid given that at pH 4.8, the concentration of lactic acid and its conjugate base is 0.001 and 0.087 M respectively.

Answer: 2.86

MCQ8: One of these statements is NOT true of amino acids

Answer: The R group of each amino acid is covalently linked to the carboxyl group

MCQ9: Which of these amino acid will absorb light most strongly in the ultraviolet region($\lambda = 100$ to 400 nm)

Answer: Phenylalanine

MCQ10: One of these amino acids will give a red coloration in Sakaguchi reaction

Answer: Lysine

MCQ11: For an amino acid to be an alpha amino acid, which of these must be true?

Answer: The amino group and the carboxyl group must be attached to the same carbon atom

MCQ12: Which of the following may be formed when free α -amino groups of amino group react with aldehydes?

Answer: Schiff base

MCQ13: Amino acids are considered amphoteric for one of the following reasons

Answer: They have both basic and acidic properties

MCQ14: Which of these amino acids contain sulphur?

Answer: Methionine

MCQ15: One of these amino acids has an OH side chain

Answer: serine

MCQ16: Which of these is not a criterion for the classification of common amino acids?

Answer: Polarity of the side chain

MCQ17: Which of these amino acid will not rotate the plane of a plane-polarised light?

Answer: glutamine

MCQ18: Which of these can be achieved with Xanthoproteic Reactions of amino acids?

Answer: Differentiating between Aromatic and Non aromatic amino acids

MCQ19: Which of these amino acids does NOT give a purple colour with Ninhydrin?

Answer: Proline

MCQ20: The bluish- purple compound appearing as ring at the interface in the reaction

of tryptophan with formaldehyde in the presence of Sulphuric acid is due to the presence of _____

Answer: Indole ring

MCQ21: How many stereoisomers of the amino acid, Alanine, are possible given that number of stereoisomers is 2^n ? Where n is the number of chiral carbons present.

Answer: 2

MCQ22: Which of these is not a part of the Henderson-Hasselbalch equation?

Answer: Concentrated acid

MCQ23: Which of these proteins is a structural protein found in hair of animals?

Answer: Actin

MCQ24: Which of these proteins is involved with vision?

Answer: Rhodopsin

MCQ25: One of these statements is NOT of proteins

Answer: They are formed by a linkage between an α -amino group of one amino acid and the α -amino group of another acid

MCQ26: All but one of these are types of gel materials used in gel filtration :

Answer: Polyacrylamide

MCQ27: Which of these methods can be used to separate protein based on their Molecular size?

Answer: Ultracentrifugation

MCQ28: Which of these phenomena is employed in dialysis to separate macromolecules from solvents with the aid of semi permeable membranes like cellophane

Answer: diffusion

MCQ29: What protein is found in Plastocyanin?

Answer: zinc

MCQ30: Which of these proteins is involved in motion?

Answer: Collagen

MCQ31: Enzymes have the following characteristic EXCEPT

Answer: They cannot be deactivated

MCQ32: Which of these functional groups gives each amino acid its identity

Answer: The COOH group

MCQ33: Which of these amino acids is an intermediate in urea formation?

Answer: Ornithine

MCQ34: Which of these amino acids is a hormone?

Answer: Citrulline

MCQ35: One of these separation techniques employs the differences in pH in separation proteins

Answer: isoelectric focusing