Very Short Answer Type Questions

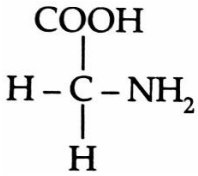
Q. 1. Name the monomers which are linked by (i) peptide bond, (ii) glycosidic bond to make their polymers. [DDE Practice Paper]

Ans. (i) Peptide bond-Amino acids

(ii) Glycosidic bond-Monosaccharide units

Q. 2. Name the smallest amino acid and draw its structure. [KVS 2012-13] [KVS 2015]

Ans. Smallest amine acid is glycine.



Q. 3. How many types of amino acids are found to occur in proteins? [KVS Agra 2017]

Ans. 20

Q. 4. What is Glycosidic bond? [KVS Guwahati 2016]

Ans. **Glycosidic Bond:** It is a bond formed during the condensation of monosaccharides for the formation of oligosaccharides and polysaccharides. $E.g.,$ Cellulose.

Q. 5. Which is the common sugar found in animals?

Ans. Glucose is the common sugar found in animals.

Q. 6. What is the other name given to carbohydrates?

Ans. Saccharides.

Q. 7. What are glycans?

Ans. Glycans are polysaccharides, they are made up of sugars.

Q. 8. How many polypeptide chains are present in an multimeric protein?

Ans. A protein having two or more polypeptides is called multimeric proteins.

Q. 9. Why starch turns blue black with iodine?

Ans. Appearance of blue colour with the addition of iodine is due to its reaction with amylose fraction of starch.

Q. 10. Name the sugar found in fruits.

Ans. Fructose.

Q. 11. What are lipids?

Ans. Lipids are the esters of fatty acids.

Q. 12. What are micro-nutrients?

Ans. Minerals required by plants in trace quantities are micro-nutrients, e.g., manganese, cobalt, zinc copper, boron etc. i9

Q.13. What are the functions of waxes?

Ans. They are protective in function. Waxes form water insoluble coating on hair and skin on animals and plants,

Q.14. Expand NAD and DNA.

Ans. NAD = Nicotinamide adenine di-nucleotide.

DNA = Deoxyribonucleic acid.

Q.15. Name a structural polysaccharide which is found in fungi.

Ans. Chitin (fungus cellulose).

Q.16. Name two components of starch.

Ans. Amylose and amylopectin are the two components of starch.

Q.17. What are the heterocyclic compounds in nucleic acids ?

Ans. The heterocyclic compounds in nucleic acids are of two types - purines and pyrimidines. Purines are adenine and guanine and pyrimidines are thymine, cytosine and uracil.

Q.18. What is phosphodiester bond?

Ans. The bond between the phosphate and hydroxyl group of sugar in an ester, is called as phosphodiester bond.

Q.19. Give an example of metallo-protein.

Ans. Iron in ferritin.

Q. 20. What is the role of myoglobin?

Ans. Myoglobin attaches to one atom of oxygen.

Q. 21. What is peptidoglycan?

Ans. Peptidoglycan are composed of polysaccharide chains cross - linked by short peptides. These are found in cell wall of bacteria and blue-green algae.

Q. 22. Name one fibrous and one globular protein.

Ans. Myosin and actin are fibrous proteins. Egg albumin and glutelins are globular proteins.

Q. 23. Lipids are not biomacromolecules. Why?

Ans. Because their molecular weight does not exceed 800 Da and they are very small molecular mass compounds.

Q. 24. Who proposed secondary structure of DNA?

Ans. Watson and Crick.

Q. 25. What are amphipathic lipids?

Ans. Lipid molecules which possess both hydrophilic and hydrophobic properties are called amphipathic lipids.

Q. 26. Name the polymer which make the exoskeleton of insects.

Ans. Chitin a polymer of glucosamine forms the exoskeleton of insects.

Q. 27. What is the name given to the inactive form of trypsin?

Ans. Trypsinogen.

Q. 28. Name a protein which act as a carrier.

Ans. Haemoglobin.

Q. 29. Name the enzyme present in the saliva.

Ans. Salivary amylase or ptyalin.

Q. 30. What do you understand by amphoteric nature of proteins?

Ans. A chemical, like protein, carrying both positive and negative charge is called amphoteric.

Q. 31. Define isoelectric point.

Ans. Isoelectric point of the amino acid is defined as the point at which a molecule exist as zwitter ion with no net charge.

Q. 32. Which macromolecules in the cells have phosphodiester bonds? [KVS 2012-13]

Ans. Nucleic acids (DNA and RNA).

Q. 33. What do you mean by PUFA?

Ans. Poly Unsaturated Fatty Acid.

Q. 34. What is activation energy?

Ans. Activation energy is the initial input of the energy required to initiate a reaction.

Q. 35. What is zymogen?

Ans. The inactive state of enzyme is called zymogen or proenzyme.

Q. 36. What are ligases?

Ans. Ligases are the enzymes that join two substrate molecules.

Q. 37. Define allosteric modulation or feedback inhibition.

Ans. It is an irreversible inhibition of enzyme activity by the presence of a substance that has no structural similarity with the substrate.

Q. 38. Who coined the term enzyme?

Ans. Kuhne coined the term enzyme.

Q. 39. What is an active site?

Ans. The part of enzyme that take part in catalyzing biochemical reaction is called active site.

Q. 40. In which case a cofactor becomes a prosthetic group?

Ans. A cofactor that firmly attaches to the apoenzyme is called prosthetic group.

Q. 41. Define isozymes.

Ans. The multiple molecular forms of an enzyme occurring in the same organism and having a similar substrate activity are called isozymes.

Q. 42. What is a holoenzyme?

Ans. The complete conjugate enzyme, consisting of an apoenzyme and a cofactor, is called holoenzyme.

Q. 43. What are hydrolases?

Ans. Hydrolases break up large molecules into smaller ones with the help of hydrogen and hydroxyl groups of water molecules.

Q. 44. What is inhibitor?

Ans. A substance which binds to enzyme and does not allow substrate to bind with the enzyme. This reduces the activity of the enzyme.

Q. 45. What is turn over number?

Ans. The number of substrate molecules changed per minute by a molecule of enzyme is called turn over number.