

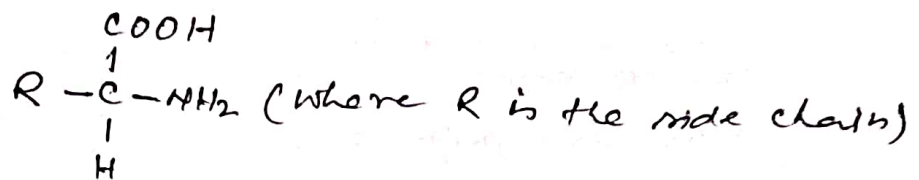
26.4.21

IMPORTANCE OF PROTEIN

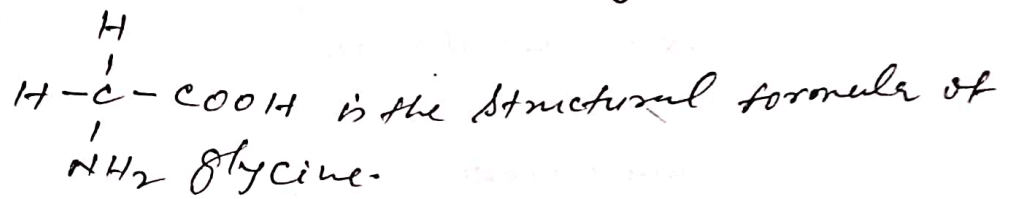
1. It is one of the chief constituents of all the living matters constituting on average about 25 to 35 percent of the total dry weight of any living organism.
2. It provides structural frame work to cells and tissues.
3. It repairs damaged part of the body.
4. It is utilized as raw material in the synthesis of essential chemical compounds like enzymes and hormones.
5. It catalyses and regulates metabolic reactions by acting as enzymes and hormones.
6. It serves as a source of energy if required i.e. when carbohydrates and lipids are present in very less amount. Oxidation of one gram proteins liberates 4.1 calories of energy i.e. equal to carbohydrate.

CHEMICAL COMPOSITION OF PROTEIN

The structural unit of protein is amino acid. Each amino acid is formed by the combination of one or more amino acid group (NH_2) and one or more carboxyl group (COOH) and a hydrogen atom linked together to the common carbon atom. This common atom is designated as α carbon atom. Amino acids are represented by the general formula.



The chemical nature of R-group is different for each amino acid. The simplest amino acid is Glycine in which R is represented by H atom i.e.



Following twenty types of amino acids are found in nature.

1. Glycine 2. Alanine 3. Valine 4. Leucine 5. Isoleucine 6. Serine 7. Threonine 8. Phenylalanine 9. Methionine 10. Tryptophan 11. Asparagine 12. Cysteine 13. Tryptophan 14. Proline 15. Aspartic 16. Glutamic 17. Lysine 18. Histidine 19. Arginine 20. Glutamine.