

Biomolecules



TRY YOURSELF

ANSWERS

1. The elements of human body are as follows :

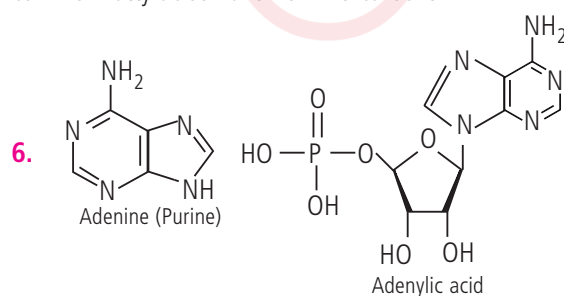
Element	% Weight present in the human body
Hydrogen (H)	0.5
Carbon (C)	18.5
Oxygen (O)	65.0
Nitrogen (N)	3.3
Sulphur (S)	0.3
Sodium (Na)	0.2
Calcium (Ca)	1.5
Magnesium (Mg)	0.1
Silicon (Si)	negligible

2. Retentate is the acid insoluble fraction which is obtained from the thick slurry during chemical analysis of living tissues. It represents biomacromolecules.

3. Aromatic amino acids has an aromatic ring. e.g., Phenylalanine and tyrosine.

4. Phospholipids are esters of glycerol with two carboxylic acid residue and one phosphate group. These lipids are present in large amounts in nerve tissue, brain, liver, kidney, pancreas and heart.

5. Fatty acids are organic acids having long aliphatic (hydrocarbon) chain that ends in a carboxylic group. The common fatty acids have 16 – 18 carbons.



7. The characteristics of pyrimidine are as follows :

(i) Pyrimidines are smaller-sized nitrogen containing biomolecules.

(ii) A pyrimidine contains 6-membered ring.

(iii) It is a single ring structure.

(iv) A pyrimidine has nitrogen atoms at two places, 1 and 3 positions.

(v) Pyrimidine bases are of three types – cytosine (C), thymine (T) and uracil (U).

8. The characteristics of secondary metabolites are as follows :

(i) These are derivatives of primary metabolites which are not involved in basic metabolic processes.

(ii) These are produced in small quantities and their extraction from the plant is difficult.

(iii) Particular secondary metabolites are found in specific plant species or families.

(iv) These are not part of the basic molecular structure of the cell.

(v) These have limited role in plant.

(vi) These are found at particular stages of development.

9. The quaternary structure of a protein is the association of several protein chains or subunits into a closely packed arrangement. The subunits in a quaternary structure must be specifically arranged for the entire protein to function properly. This is found only in multimeric proteins, e.g., haemoglobin (4 polypeptides, 2 α and 2 β).

10. Roles of DNA are as follows -

(i) DNA is a universal genetic material which carries all the hereditary information with some exceptions.

(ii) It gives rise to RNAs through transcription which further codes for proteins.

11. The number of substrate molecules converted to products per minute by an enzyme molecule is called turnover number.

12. Protein

