

CLASS XI BIO CH:9

Set 1 – Biomolecules

1. Biomolecules are —
 - A) Organic molecules present in living organisms
 - B) Inorganic molecules
 - C) Molecules formed only in labs
 - D) Artificial chemicals
2. The study of biomolecules is called —
 - A) Biophysics
 - B) Biochemistry
 - C) Biotechnology
 - D) Molecular biology
3. The most abundant biomolecule on earth is —
 - A) Protein
 - B) Water
 - C) Carbohydrate
 - D) Lipid
4. The second most abundant biomolecule in living organisms is —
 - A) Carbohydrate
 - B) Protein
 - C) Lipid
 - D) Mineral
5. The simplest carbohydrate is —
 - A) Glucose
 - B) Fructose
 - C) Ribose
 - D) Glyceraldehyde
6. The general formula of carbohydrates is —
 - A) $C_n(H_2O)_n$
 - B) $C_nH_{2n}O_n$
 - C) $C_nH_{2n+2}O_n$
 - D) $C_nH_{2n-2}O_n$
7. The smallest monosaccharide is —
 - A) Glyceraldehyde
 - B) Glucose
 - C) Ribose
 - D) Fructose
8. Glucose is an example of —
 - A) Hexose sugar
 - B) Pentose sugar

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- C) Triose sugar
- D) Disaccharide

9. The molecular formula of glucose is —

- A) $C_6H_{12}O_6$
- B) $C_5H_{10}O_5$
- C) $C_{12}H_{22}O_{11}$
- D) $C_3H_6O_3$

10. The open-chain form of glucose contains —

- A) 4 carbon atoms
- B) 5 carbon atoms
- C) 6 carbon atoms
- D) 7 carbon atoms

11. The cyclic structure of glucose is —

- A) Pyranose form
- B) Furanose form
- C) Both A and B
- D) None

12. The bond between two monosaccharides is —

- A) Peptide bond
- B) Glycosidic bond
- C) Hydrogen bond
- D) Phosphodiester bond

13. Sucrose is composed of —

- A) Glucose + Fructose
- B) Glucose + Galactose
- C) Fructose + Galactose
- D) Glucose + Glucose

14. Lactose is composed of —

- A) Glucose + Fructose
- B) Glucose + Galactose
- C) Fructose + Galactose
- D) Two glucose molecules

15. Maltose is composed of —

- A) Two glucose molecules
- B) Glucose + Fructose
- C) Glucose + Galactose
- D) Glucose + Mannose

16. Starch is a polymer of —

- A) Glucose
- B) Fructose
- C) Ribose
- D) Galactose

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17. Cellulose is a polymer of —

- A) β -D-glucose
- B) α -D-glucose
- C) Fructose
- D) Ribose

18. The storage polysaccharide in animals is —

- A) Starch
- B) Glycogen
- C) Cellulose
- D) Chitin

19. The structural polysaccharide in plants is —

- A) Cellulose
- B) Glycogen
- C) Starch
- D) Chitin

20. The structural polysaccharide in animals is —

- A) Chitin
- B) Glycogen
- C) Cellulose
- D) Starch

21. The monomeric unit of proteins is —

- A) Amino acid
- B) Nucleotide
- C) Glucose
- D) Fatty acid

22. The number of amino acids present in proteins is —

- A) 10
- B) 20
- C) 30
- D) 40

23. Which one of the following is not an amino acid?

- A) Glycine
- B) Alanine
- C) Glucose
- D) Valine

24. Amino acids are linked by —

- A) Glycosidic bond
- B) Peptide bond
- C) Hydrogen bond
- D) Ester bond

25. The terminal -NH_2 group of an amino acid is called —

- A) Amino terminus

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- B) Carboxyl terminus
 - C) Peptide bond
 - D) Alpha group
- 26.** Proteins are polymers of —
- A) Amino acids
 - B) Nucleotides
 - C) Fatty acids
 - D) Sugars
- 27.** The primary structure of a protein is —
- A) Sequence of amino acids
 - B) Coiling of polypeptide
 - C) Folding of chain
 - D) Joining of chains
- 28.** Secondary structure of protein is stabilized by —
- A) Hydrogen bonds
 - B) Peptide bonds
 - C) Ionic bonds
 - D) Disulfide bonds
- 29.** The α -helix and β -pleated sheet structures are examples of —
- A) Primary structure
 - B) Secondary structure
 - C) Tertiary structure
 - D) Quaternary structure
- 30.** The tertiary structure of proteins is due to —
- A) Interactions between R groups
 - B) Peptide bonds
 - C) Hydrogen bonds only
 - D) None
- 31.** The quaternary structure of proteins refers to —
- A) More than one polypeptide chain
 - B) Single chain
 - C) Coiling of one chain
 - D) Folding of one molecule
- 32.** The monomeric unit of nucleic acids is —
- A) Nucleotide
 - B) Amino acid
 - C) Glucose
 - D) Phosphate
- 33.** A nucleotide is composed of —
- A) Sugar + Base + Phosphate
 - B) Sugar + Base

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- C) Base + Phosphate
- D) Sugar + Phosphate

34. The sugar in RNA is —

- A) Ribose
- B) Deoxyribose
- C) Glucose
- D) Fructose

35. The sugar in DNA is —

- A) Ribose
- B) Deoxyribose
- C) Glucose
- D) Fructose

36. The nitrogen base not found in RNA is —

- A) Adenine
- B) Thymine
- C) Guanine
- D) Cytosine

37. The nitrogen base not found in DNA is —

- A) Thymine
- B) Uracil
- C) Guanine
- D) Cytosine

38. The base pairing rule (Watson–Crick) states that —

- A) A pairs with T, G pairs with C
- B) A pairs with G, T pairs with C
- C) A pairs with C, T pairs with G
- D) A pairs with U, G pairs with T

39. The backbone of nucleic acid is formed by —

- A) Sugar-phosphate linkages
- B) Base-base linkages
- C) Peptide bonds
- D) Ionic bonds

40. DNA stands for —

- A) Deoxyribonucleic acid
- B) Dioxyribonucleic acid
- C) Deoxyribose nitrogen acid
- D) Deoxyribose nucleoprotein acid

41. RNA stands for —

- A) Ribonucleic acid
- B) Riboprotein acid
- C) Ribonitric acid
- D) Ribophosphate acid

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42. Lipids are —

- A) Insoluble in water but soluble in organic solvents
- B) Soluble in water
- C) Insoluble in all solvents
- D) Polymers of amino acids

43. The building blocks of fats are —

- A) Fatty acids and glycerol
- B) Amino acids
- C) Sugars
- D) Nucleotides

44. Phospholipids are found mainly in —

- A) Cell membrane
- B) Nucleus
- C) Ribosomes
- D) Mitochondria only

45. The major energy reserve molecule in the human body is —

- A) Fat
- B) Protein
- C) Glycogen
- D) Glucose

46. Enzymes are chemically —

- A) Proteins
- B) Lipids
- C) Carbohydrates
- D) Nucleic acids

47. Enzymes increase the rate of reaction by —

- A) Lowering activation energy
- B) Increasing activation energy
- C) Changing equilibrium
- D) Increasing temperature

48. The non-protein part of an enzyme is called —

- A) Cofactor
- B) Apoenzyme
- C) Coenzyme
- D) Holoenzyme

49. The protein part of an enzyme is —

- A) Apoenzyme
- B) Coenzyme
- C) Cofactor
- D) Holoenzyme

50. The enzyme with both protein and non-protein parts active together is called —

- A) Holoenzyme

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- B) Apoenzyme
 - C) Coenzyme
 - D) Isoenzyme
-

Answer Key (Set 1 – Biomolecules)

1-A, 2-B, 3-B, 4-B, 5-D, 6-A, 7-A, 8-A, 9-A, 10-C,
11-A, 12-B, 13-A, 14-B, 15-A, 16-A, 17-A, 18-B, 19-A, 20-A,
21-A, 22-B, 23-C, 24-B, 25-A, 26-A, 27-A, 28-A, 29-B, 30-A,
31-A, 32-A, 33-A, 34-A, 35-B, 36-B, 37-B, 38-A, 39-A, 40-A,
41-A, 42-A, 43-A, 44-A, 45-A, 46-A, 47-A, 48-A, 49-A, 50-A.

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