CHAPTER 3
Biomolecules
Which of the following carbohydrate
a)DNA
b)Amino acid
c)Glucose
d)Fatty acid

2. **What is the building block of proteins?**

   a) Nucleotides

   b) Monosaccharides

   c) Amino acids

   d) Fatty acids

3. **Which of the following biomolecules isnot a polymer?**

   a) Starch

   b) Protein

   c) Glucose

   d) Cellulose

4. **What is the primary function ofenzymes?**

   a) Store genetic information

   b) Act as biological catalysts

   c) Provide structural support

   d) Store energy

5. **Which type of bond holds the twostrands of DNA together?**

   a) Hydrogen bonds

   b) Ionic bonds

   c) Covalent bonds

   d) Disulfide bonds

6. **Which biomolecule is used for long-termenergy storage in animals?**

   a) Glycogen

   b) Starch

   c) Cellulose

   d) Glucose

7. **Which of the following is apolysaccharide?**

   a) Glucose

   b) Sucrose
   c) Starch

   d) Fructose

8. **What is the basic unit of nucleic acids?**

   a) Amino acids

   b) Nucleotides

   c) Monosaccharides

   d) Fatty acids

9. **Which of the following is a function oflipids?**

   a) Store genetic information

   b) Serve as enzymes

   c) Act as energy reserves

   d) Transport substances

10. **What type of bond forms betweenamino acids in a protein?**

    a) Hydrogen bond

    b) Ionic bond

    c) Peptide bond

    d) Disulfide bond

11. **Which vitamin is essential for thesynthesis of collagen?**

    a) Vitamin A

    b) Vitamin C

    c) Vitamin D

    d) Vitamin E

12. **Which of the following is a characteristic of saturated fats?**

    a) Contains double bonds

    b) Typically liquid at room temperature

    c) Found in plant oils

d) Typically solid at room temperature

13. What is the main structural componentof cell membranes?

a) Carbohydrates
b) Nucleic acids

c) Lipids

d) Proteins

14. Which of the following is not a nucleicacid?

a) DNA

b) RNA

c) ATP

d) Glycogen

15. Which type of RNA carries amino acidsto the ribosome?

a) mRNA

b) tRNA

c) rRNA

d) sRNA

16. Which of the following is a function ofcarbohydrates?

a) Providing genetic material

b) Storing energy

c) Acting as enzymes

d) Providing structural support

17. What is the role of ribosomes in proteinsynthesis?

a) Store genetic information

b) Catalyze chemical reactions

c) Assemble amino acids into proteins

d) Transport substances

18. Which of the following is a commondisaccharide?

a) Fructose

b) Sucrose

c) Glycogen

d) Cellulose

19. Which biomolecule contains geneticinformation?

a) Lipids

b) Proteins

c) Nucleic acids

d) Carbohydrates

20. What is the primary function of ATP?

a) Store genetic information

b) Act as a cellular energy currency

c) Provide structural support

d) Store energy in the form of fat

21. Which of the following biomolecules isfound in the cell wall of plants?

a) Cellulose

b) Glycogen

c) Starch

d) Chitin

22. What is the primary structure ofproteins determined by?

a) Sequence of amino acids

b) Folding of polypeptide chains

c) Interaction between different proteins

d) Chemical modifications

23. Which of the following is an example ofa steroid?

a) Cholesterol

b) Glucose

c) Starch

d) RNA

24. What is the role of DNA polymerase inDNA replication?

a) Unwind the DNA strands

b) Add nucleotides to the growing DNAstrand
c) Bind the DNA strands together

d) Proofread the newly synthesizedDNA

25. Which biomolecule is primarilyinvolved in genetic coding?

a) Carbohydrates

b) Proteins

c) Nucleic acids

d) Lipids

26. Which of the following is a characteristic of unsaturated fats?

a) No double bonds

b) Solid at room temperature

c) Liquid at room temperature

d) Found mainly in animal products

27. What is the main function ofcarbohydrates in plants?

a) Store genetic information

b) Store energy

c) Provide structural support

d) Act as enzymes

28. What type of biomolecule is insulin?

a) Carbohydrate

b) Nucleic acid

c) Protein

d) Lipid

29. Which molecule is considered the“energy currency” of the cell?

a) ATP

b) DNA

c) RNA

d) Glycogen

30. Which type of bond holds the doublehelix structure of DNA together?

a) Hydrogen bonds

b) Covalent bonds

c) Ionic bonds

d) Disulfide bonds

31. **Which biomolecule is responsible for carrying genetic information from DNAto ribosomes?**

a) tRNA

b) mRNA

c) rRNA

d) DNA

32. **What is the function of the enzymeamylase?**

a) Break down proteins

b) Break down lipids

c) Break down carbohydrates

d) Synthesize nucleic acids

33. **Which of the following is a key component of the cell membrane?**

a) DNA

b) RNA

c) Phospholipids

d) Carbohydrates

34. **What type of bond forms between thehydroxyl groups of carbohydrates?**

a) Ionic bond

b) Hydrogen bond

c) Covalent bond

d) Disulfide bond

35. **Which type of biomolecule is composedof a glycerol backbone and fatty acids?**

a) Protein

b) Carbohydrate

c) Lipid

d) Nucleic acid

36. Which biomolecule is primarily involved in energy transfer within cells?

a) DNA

b) Protein

c) ATP

d) Cellulose

37. What is the role of enzymes inbiochemical reactions?

a) Speed up the reaction rate

b) Slow down the reaction rate

c) Act as reactants

d) Bind to substrates permanently

38. Which of the following is a componentof nucleotides?

a) Amino acid

b) Sugar

c) Fatty acid

d) Monosaccharide

39. Which type of biomolecule is involved inthe immune response?

a) Carbohydrates

b) Nucleic acids

c) Proteins

d) Lipids

40. What is the function of ribosomal RNA(rRNA)?

a) Carry amino acids

b) Form the ribosome

c) Transport genetic material

d) Store genetic information

41. Which type of lipid is found in cellmembranes and is essential for membrane fluidity?

a) Phospholipids

b) Cholesterol

c) Triglycerides

d) Waxes

42. What is the primary source of energyfor cells?

a) Proteins

b) Carbohydrates

c) Lipids

d) Nucleic acids

43. Which biomolecule is used to store andtransmit genetic information?

a) Proteins

b) Carbohydrates

c) Lipids

d) Nucleic acids

44. What is the function of the enzymelactase?

a) Digest proteins

b) Digest fats

c) Digest carbohydrates

d) Synthesize nucleic acids

45. Which of the following biomolecules iscomposed of chains of amino acids?

a) Carbohydrates

b) Lipids

c) Proteins

d) Nucleic acids

46. Which type of biomolecule includes hormones such as insulin and enzymes like amylase?

a) Carbohydrates

b) Proteins

c) Lipids

d) Nucleic acids

47. What is the primary function ofglycogen in animals?

a) Store energy

b) Provide structural support

c) Transport genetic material

d) Act as a catalyst

48. Which biomolecule is involved in theformation of cell walls in fungi?

a) Cellulose

b) Chitin

c) Glycogen

d) Starch

49. Which of the following is an example ofa polysaccharide used for energy storage in plants?

a) Glycogen

b) Cellulose

c) Starch

d) Chitin

50. What is the role of ATP in cellularprocesses?

a) Store genetic information

b) Provide energy for cellular activities

c) Act as a structural component

d) Transport nutrients

Answer key

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