TWENTY QUESTIONS OF MACROMOLECULES

Name____________________________________________________        Period_____  

1. What are the three elements in all organic macromolecules: _____  _____  _____  

2. What additional element is also in proteins?_____          in nucleic acids?_____  

3. What is a monomer of a protein called?_________________  

4. Match the following molecules with their structures below:  
   _____carbohydrate     _____lipid     _____amino acid     _____nucleotide  
   A.  
   B.  
   C.  
   D.  

5. a. Circle which is represented by this structure?  Monosaccharide     unsaturated fat  
                  Saturated fat           disaccharide  
                  CH₃CH₂CH₂CH₂CH₂CH=CHCH₂CH₂CH₂CH₂CH₂CH₂COOH  
   b. Rewrite the above molecular formula into its structural formula showing all the bonding.  
   (HINT: refer to text p. 23)  

6. Which type of bond is illustrated at the arrow?  Sugar – sugar     peptide     phosphate-phosphate  

   What kind of macromolecule is it?_________________  

7. Circle the functional groups in the following and identify them by the molecule:

A. 

B. 

C. 

D. 

8. Match the form of glucose where it is found:
   A. Glycogen  B. starch  C. cellulose  D. glucose
   _____storage form in plants  _____found in cell walls of plants
   _____usable form in bloodstream  _____storage form in animals

9. Which of the following is NOT a function associated with proteins?
   _____contraction  _____enzymes  _____genetic storage  _____structural material

10. What type of macromolecule is shown to the right?
    _____disaccharide  _____protein  _____lipid  _____nucleic acid

11. \( \text{C}_{12}\text{H}_{27}\text{O}_3 \) is a:
    _____carbohydrate  ___lipid  ___protein  ___nucleic acid

12. Which is more healthy for your diet: saturated fats  polyunsaturated fats

13. There are 20 amino acids. How are they different from each other?

14. What is the basic formula of a carbohydrate?

15. Is table sugar a monosaccharide or a disaccharide?

16. Are all lipids bad for you? Why or why not?

17. How can you tell a saturate fat in the grocery store from a polyunsaturated one?

18. Which of the following does not belong with the others? (CIRCLE)
    Polypeptide  protein  monosaccharide  amino acid chain

19. What is the monomer of a lipid?

20. Name one example of each: monosaccharide  disaccharide  polysaccharide