1. Which of the following compounds may be polymers?
   a. carbohydrates  
   b. nucleic acids  
   c. proteins  
   d. all of these

2. Carbon compounds that come from living organisms are called _____ compounds.
   a. water  
   b. organic  
   c. homogeneous  
   d. biological

3. How many covalent bonds does a carbon atom always form?
   a. one  
   b. two  
   c. three  
   d. four

4. What are the basic building blocks of proteins?
   a. nucleic acids  
   b. peptide bonds  
   c. amino acids  
   d. glycerol and fatty acids

5. When monomers are chemically combined to make polymers, they do so by a chemical reaction called
   a. hydrolysis  
   b. electron clouds  
   c. condensation  
   d. radiation

6. The various enzymes in our bodies are ______.
   a. lipids  
   b. carbohydrates  
   c. nucleotides  
   d. proteins

7. Unsaturated fat contain _____ and are ______ dense than saturated fats.
   a. more oxygen than hydrogen, the same  
   b. double bonds, less  
   c. ionic bonds, more  
   d. only one fatty acid, less

8. The Monomers of Carbohydrates are ______.
   a. sugars  
   b. nucleotides  
   c. amino acids  
   d. fatty acids

9. Compounds containing 2 simple sugars covalently bonded together are referred to as
   a. Dipeptides  
   b. Disaccharides  
   c. Polysaccharides  
   d. Monosaccharaides

10. The carbohydrate which is made to meet the immediate energy demands of animals is
   a. starch  
   b. cellulose  
   c. lipids  
   d. glycogen

11. The carbohydrate in plants that forms the cell wall of plant cells and makes the “body of the plant, and is not
    digestible by humans is ______
    a. starch  
    b. cellulose  
    c. glycogen  
    d. amylase

12. Starch, cellulose, and glycogen, despite their enormous differences in physical properties, are all composed
    entirely of
    a. sucrose  
    b. glucose  
    c. lactose  
    d. amylase

13. The monomers of Nucleic acids are ______
    a. sugars  
    b. nucleotides  
    c. amino acids  
    d. fatty acids

14. The 3 parts that make up the monomers of nucleic acids are
    a. Sugar, phosphate, amino group  
    b. Nitrogenous base, fatty acid, sugar  
    c. Sugar, phosphate, nitrogenous base  
    d. Carboxylic acid, nucleus, amino group

15. The main function of nucleic acids is to
    a. Lower the pH of our stomach  
    b. Keep the nucleus of our cells intact  
    c. Make us feel good about ourselves  
    d. Provide material for our genetic code
16. Which of these is **not a primary function** of proteins?
   a. Cellular components for transport  
   b. Cellular components for support  
   c. Cellular components for storage  
   d. Cellular components for energy

17. Which of these parts of an amino acid is the one that is unique to each one?
   a. hydrogen  
   b. Carboxyllic acid  
   c. “R” group (side chain)  
   d. Amino group

18. This is the **type of bond** that joins amino acids together?
   a. Peptide bond  
   b. Glycosidic linkage  
   c. Condensation reaction  
   d. Hydrogen bond

19. Proteins can also be called
   a. Polysaccharides  
   b. Polypeptides  
   c. Peptidases  
   d. Multipeptides

20. Based on the name alone, which of the following can be classified as a sugar?
   a. maltose  
   b. maltase  
   c. honey  
   d. hemoglobin

21. Which of these is **not a primary function** of proteins?
   a. Cellular components for transport  
   b. Cellular components for support  
   c. Cellular components for storage  
   d. Cellular components for energy

22. Most enzymes are named with which **suffix**?
   a. -ase  
   b. -ose  
   c. -ey  
   d. -ise

23. Because enzymes affect the speed of chemical reactions without being consumed, they are referred to as:
   a. hydrogen acceptors  
   b. activation energy  
   c. catalysts  
   d. transformation proteins.

24. Which of the following statements concerning enzymes is FALSE?
   a. Each enzyme has an optimal temperature.  
   b. Each enzyme has an optimal pH.  
   c. Enzyme activity can be blocked by inhibitors  
   d. Most enzymes are RNA molecules.

25. Enzymes speed up a biochemical reaction by doing this:
   a. lower the activation energy  
   b. increase the entropy  
   c. decrease the free energy  
   d. bind to a DNA molecule

26. The part of the enzyme where the reactant binds to, is called the
   a. sweet spot  
   b. active site  
   c. localized region  
   d. allosteric site

27. The reactant that each enzyme binds to and performs work on, in a biochemical reaction is referred to as the
   a. substance  
   b. inhibitor  
   c. cofactor  
   d. substrate

28. A molecule that binds to an enzyme and **prevents it from functioning** is called a(n)
   a. cofactor  
   b. coenzyme  
   c. inhibitor  
   d. substrate

29. When an inhibitor binds directly to the active site, this is
   a. Competitive inhibition  
   b. allosteric inhibition  
   c. Non – competitive inhibition  
   d. Substrate inhibition

30. Which of the following are factors that influence the rate that an enzyme can function
   a. temperature  
   b. pH  
   c. concentration of enzymes  
   d. all of these

31. The enzyme peptidase breaks down proteins into di-peptides, and is found in the stomach. This enzyme probably functions best at
   a. a neutral (like water) pH  
   b. a very low (acidic) pH  
   c. very high temperatures (above 98.6)  
   d. very low temperatures (below 50)
32. When an enzyme is unfolded from its proper structure and no longer functions, we say the enzyme has become
   a. sterilized  
   b. a carbohydrate  
   c. denatured  
   d. reconfigured

33. Each enzyme can perform reactions on
   a. any molecule they bind to  
   b. only a specific molecule(s)  
   c. cheese and crackers  
   d. none of these

34. Which statement best describes the enzyme represented in the graphs below?

   ![Graphs showing enzyme activity vs. Temperature and pH]

   a. This enzyme works best at a temperature of 35 C and a pH of 8.
   b. This enzyme works best at a temperature of 50 C and a pH of 12.
   c. Temperature and pH have no influence on the activity of this enzyme.
   d. This enzyme works best at a temperature above 50 C and a pH above 12