**Name:** _____ **Class:** _____ **Date:** _____ **ID: A**

# Chemistry G11- Q4.W1-Biochemistry-H.W.

**Multiple Choice**
*Identify the choice that best completes the statement or answers the question.*

____ 1. _____ often results in the loss of biological activity of polypeptides.
a. Denaturation
b. Substrating
c. Enzyme action
d. Peptide bonding

____ 2. Cells sometimes generate energy in the absence of oxygen in a process called _____.
a. respiration
b. fermentation
c. digestion
d. glycolysis

____ 3. The total of all chemical reactions necessary for the life of an organism is _____.
a. digestion
b. metabolism
c. glycolysis
d. respiration

____ 4. Which of the following elements is not essential in the makeup of body cells?
a. magnesium
b. nitrogen
c. oxygen
d. carbon

____ 5. In animals, excess glucose is stored in the liver and muscles as _____.
a. chitin
b. glycogen
c. starch
d. cellulose

____ 6. Which of the following vitamins is most likely to be removed from a food by boiling the food?
a. All will be removed.
b. vitamin A
c. vitamin D
d. vitamin C

____ 7. The basic building blocks of proteins are _____.
a. glycerols
b. sugars
c. amino acids
d. fatty acids

____ 8. Which of the following is not true about cholesterol?
a. Excess cholesterol can form the plaque that can clog human arteries.
b. Your body does not need any cholesterol.
c. Exercise and stress affect cholesterol levels.
d. Controlling dietary cholesterol has no effect on blood cholesterol levels.

____ 9. Which of the following might be the number of oxygen atoms in a lipid that contains 30 hydrogen atoms?
a. 60
b. 15
c. 6
d. 30

____ 10. Energy-storage molecules that contain three phosphate groups are called _____.
a. RNA
b. ATP
c. DNA
d. ADP

____ 11. One protein that transports substances through your body is _____.
a. collagen
b. hemoglobin
c. an enzyme
d. keratin

____ 12. Which of the following elements is not found in proteins?
a. nitrogen
b. sodium
c. sulfur
d. hydrogen

____ 13. Which is the correct sequence for the three steps of respiration?
a. electron transport chain, the tricarboxylic acid cycle, glycolysis
b. the tricarboxylic acid cycle, glycolysis, electron transport chain
c. the tricarboxylic acid cycle, electron transport chain, glycolysis
d. glycolysis, the tricarboxylic acid cycle, electron transport chain

____ 14. When peptide bonds form, peptides and _____ are formed.
a. carbon dioxide
b. water
c. oxygen
d. amino acids

____ 15. Antibodies that fight disease organisms are _____.
a. enzymes
b. carbohydrates
c. proteins
d. lipids

____ 16. A carbohydrate that contains 24 hydrogen atoms contains _____ oxygen atoms.
a. 6
b. 48
c. 12
d. 24

____ 17. The oxidation of fuel that releases energy needed by cells is _____.
a. respiration
b. glycolysis
c. digestion
d. metabolism

____ 18. Which of the following is not contained in a nucleic acid?
a. nitrogen-containing base
b. phosphate group
c. simple sugar
d. carbonate group

____ 19. Carbon dioxide is a product of _____.
a. lactic acid fermentation
b. evaporation
c. alcoholic fermentation
d. digestion

____ 20. The wax applied to the paint of a car is an example of a _____.
a. carbohydrate
b. steroid
c. protein
d. lipid

____ 21. A molecule contains sugar-phosphate chains and base pairs of cytosine-guanine and uracil-adenine. The molecule is _____.
a. a vitamin
b. an enzyme
c. RNA
d. DNA

____ 22. The linking of amino acids by peptide bond formation is _____.
a. composition
b. biochemistry
c. protein synthesis
d. organic chemistry

**Matching**

*Match each statement with the correct item below.*

a. involves substrate and an active site
b. ADP plus phosphate
c. glucose, cellulose, and sucrose
d. fats, oils, and steroids
e. amide group in proteins
f. vitamin C, NADH, and $FADH_2$
g. involves fuel molecules and oxygen
h. involves proteins, carbohydrates, lipids, glycolysis, and fermentation
i. contains adenine, guanine, and uracil
j. hemoglobin, collagen, and keratin
k. sugar, phosphate, and nitrogen base
l. blood sugar
m. starch, cellulose, and glycogen
n. is caused by heat, pH changes, chemicals, or mechanical agitation
o. made from glucose plus fructose
p. contains carboxyl group and amino group
q. produces ethanol or lactic acid
r. DNA and RNA are examples
s. contains adenine, guanine, and thymine
t. cholesterol, vitamin D, and sex hormones are examples

____ 23. polysaccharides
____ 24. fermentation
____ 25. respiration
____ 26. nucleic acids
____ 27. biochemistry
____ 28. induced fit
____ 29. ATP
____ 30. RNA
____ 31. lipids
____ 32. amino acid
____ 33. peptide bond
____ 34. sucrose
____ 35. DNA
____ 36. nucleotide
____ 37. steroids
____ 38. protein
____ 39. glucose
____ 40. carbohydrate
____ 41. denaturation
____ 42. coenzymes

**Name:** _____ **ID: A**

**Problem**

*The following questions are some major biochemical families of compounds. Match the letter for the correct formula from Figure 19-1 that belongs to each of these families.*

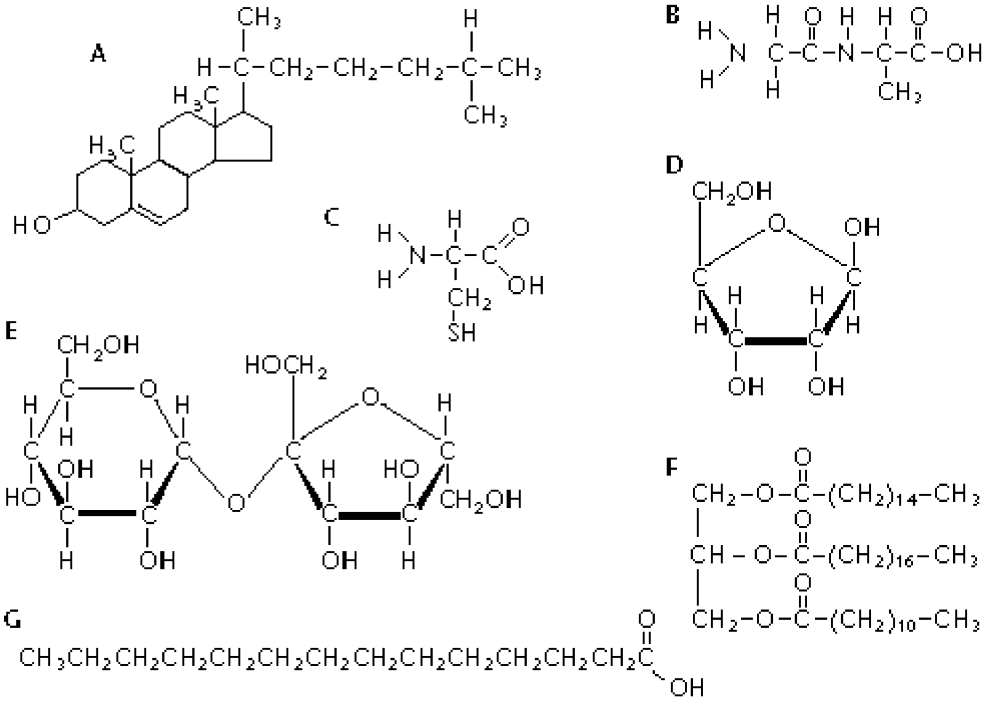


Figure 19-1

43. Amino acid _____
44. Disaccharide _____
45. Triglyceride _____
46. Dipeptide _____
47. Steroid _____

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