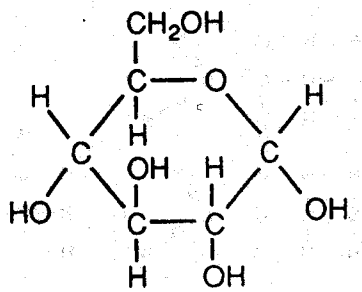
Macromolecule Questions **Name:**
Mr. Ulrich

1. Which formula represents an organic compound?
   (1) $Mg(OH)_2$ (3) $C_{12}H_{22}O_{11}$
   (2) NaCl (4) NH_3

2. Two examples of carbohydrates are
   (1) fatty acids and glycerol
   (2) fats and waxes
   (3) sugars and starches
   (4) amino acids and alcohol

3. Which compound is a polysaccharide?
   (1) glucose (3) ATP
   (2) maltase (4) starch

4. Which compound has the structural formula shown below?



   (1) starch (3) ATP
   (2) a lipid (4) glucose

5. Which organic compound is correctly matched with the subunit that composes it?
   (1) maltose–amino acid (3) protein–fatty acid
   (2) starch–glucose (4) lipid–sucrose

6. Vegetable oils, such as corn oil, belong to which general class of organic substances?
   (1) lipids (3) carbohydrates
   (2) proteins (4) salts

7. Fatty acids and amino acids both contain
   (1) alcohol (3) simple sugars
   (2) glycerol (4) carboxyl groups

8. In a lipid synthesis reaction, the greatest number of fatty acid molecules that could combine into one glycerol molecule is
   (1) 1 (3) 3
   (2) 2 (4) 6

9. Hemoglobin, insulin, albumin, and maltase, which are composed of chains of amino acids, are examples of
   (1) proteins (3) lipids
   (2) carbohydrates (4) nucleic acids

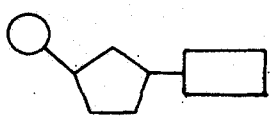
10. Enzymes are produced as a direct result of which process?
    (1) protein synthesis
    (2) photosynthesis
    (3) respiration
    (4) enzymatic hydrolysis

11. If there were no nitrogen compounds in the soil, the most immediate effect on plants growing in that soil would be difficulty in synthesizing
    (1) amino acids and proteins
    (2) glucose and polysaccharides
    (3) monosaccharides and cellulose
    (4) fatty acids and lipids

12. What are the basic structural units of a DNA molecule?
    (1) glucose molecules (3) lipids
    (2) amino acids (4) nucleotides

13. A polymer commonly found in the nucleus of cells is
    (1) ATP (3) cellulose
    (2) hemoglobin (4) DNA

14. The diagram below represents the building block of a large molecule known as a

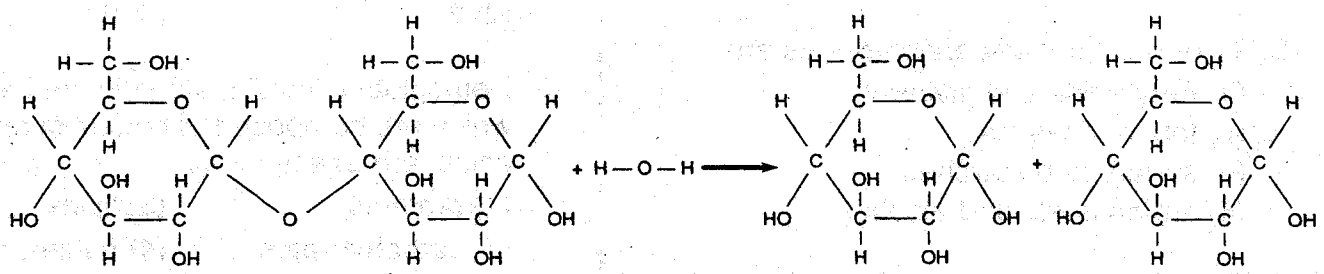


    (1) protein (3) carbohydrate
    (2) fatty acid (4) nucleic acid

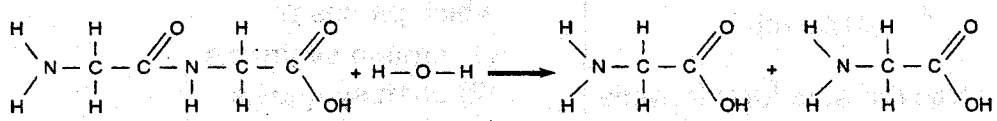
15. Base your answer to the following question on the list of three equations below. Select the equation that is most closely associated with that statement.

Equations

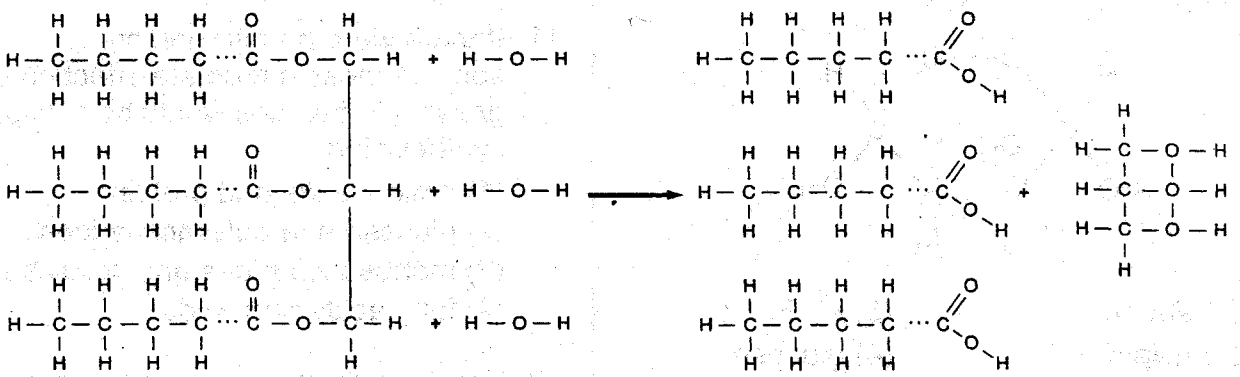
(1)



(2)



(3)



This equation represents the digestion of a lipid.

(1) 1 (2) 2 (3) 3

16. A DNA nucleotide is composed of
    (1) carbon, hydrogen, oxygen, nitrogen, and phosphorus
    (2) carbon, hydrogen, nitrogen, sulfur, and calcium
    (3) calcium, hydrogen, oxygen, phosphorus, and iron
    (4) oxygen, hydrogen, phosphorus, sulfur, and iron

17. Which molecule is correctly paired with its building blocks?
    (1) cellulose – polypeptides
    (2) DNA – nucleotides
    (3) protein – monosaccharides
    (4) fat – disaccharides

18. When bonded together chemically, deoxyribose, phosphate, and an adenine molecule make up
    (1) a DNA nucleotide (3) a DNA molecule
    (2) an RNA nucleotide (4) an RNA molecule