1.17-18 Enzyme Practice

1. Protein shape dictates protein function. ( True/False )
2. The shape of an enzyme dictates its ability to function. ( True/False )
3. Catalysts are used up in reactions. ( True/False )
4. Enzymes are used up in the reactions. ( True/False )
5. Catalysts which function in biological systems are known as enzymes. ( True/False )
6. Activation energy is the energy needed to start a chemical reaction. ( True/False )
7. Enzymes are highly specific for the reactions they catalyze. ( True/False )
8. Enzymes can only work with specific substrate(s). ( True/False )
9. Enzymes slow down reactions, lowing the reaction rate ( True/False )
10. Enzymes make reactions occur that would never occur without the enzyme. ( True/False )
11. The active site of an enzyme is not specific to the reaction it catalyzes. ( True/False )
12. Enzymes do not help in the digestion of food. ( True/False )
13. Enzymes are sensitive to both, pH and temperature. ( True/False )
14. Enzymes lower the activation energy of a reaction. ( True/False )
15. In reactions that enzymes are involved in (AKA “enzymatic reactions” or “enzyme-mediated reactions”) the reactant(s) are called “substrate(s)”. ( True/False )
16. Enzymes work best at “optimal temperatures”, for example, enzymes in the human body likely work best at 98.6 oF. ( True/False )
17. The attribute(s) of an enzyme is/are that they:
    1. Speed up the rate of reactions
    2. Are specific in action
    3. Are often a type of protein
    4. All of the above
18. Which of the following is an action of the enzymes?
    1. Change the direction of reaction
    2. Change the rate of biochemical reaction
    3. Change the structure of reactants and products
    4. None of the above
19. The main digestive enzyme in the stomach is called
    1. Pepsin
    2. Cellulase
    3. Pectinase
    4. None of the above
20. An enzyme that breaks down cellulose is called (HINT: it is as easy as it seems!)
    1. Pepsin
    2. Cellulase
    3. Pectinase
    4. None of the above
21. An enzyme that breaks down pectin is called (HINT: it is as easy as it seems!)
    1. Pepsin
    2. Cellulase
    3. Pectinase
    4. None of the above
22. Enzyme that breaks down proteins (like pepsin and trypsin) are referred to as a class of enzymes called (HINT: it is as easy as it seems!)
    1. proteases
    2. amylases
    3. lipases
    4. nucleases
23. Enzyme that breaks down fats are referred to as a class of enzymes called (HINT: it is as easy as it seems!)
    1. proteases
    2. amylases
    3. lipases
    4. nucleases
24. The enzymes in humans function best at temperatures ranging from:
    1. 80-105 F
    2. 40-70 F
    3. 0-40 F
    4. 100-120 F
25. Pepsin's optimum pH is about
    1. 2
    2. 7
    3. 9
    4. 4
26. The protein that speeds up biochemical reactions is known as a(n)
    1. Enzyme
    2. Mineral
    3. Vitamin
    4. None of the above

27. At temperatures that are “too low” enzymes \_1st phrase\_. At temperatures that are “too high” enzymes \_2nd \_.

1. cease functioning, change shape and cannot function
2. function better, function better
3. When all proteins ‘unfold’ or lost their shape we call this process “denaturing”. We say that “the protein has denatured”. When enzymes unfold, we call this process
4. blahing
5. melting
6. withering
7. denaturing
8. THINK! Is increasing temperature always a bad thing for an enzymatic reaction? How might the environment being a little warmer aid the reaction?
9. What are enzymes?
10. Explain why organisms need enzymes to survive.
11. Enzymes are specific for the reactions they catalyze, Pepsin, for example, in an enzyme that breaks down proteins. Is it likely that pepsin can also build proteins? Why or why not?