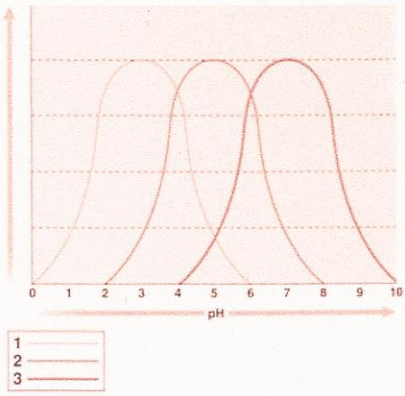
Name:_____ ID#_____

12. You do an experiment in the laboratory and add increasing amounts of substrate to a solution containing an enzyme and a pH buffer. You incubate the container at the optimal temperature for your enzyme. Each time you add more substrate, you measure the rate of the reaction. If you graph the results where the x-axis shows the substrate concentration and the y-axis shows the resulting reaction rate, what will you find over time?

a. The rate of the reaction will proceed with a slope of 1 and continue in a linear fashion indefinitely or until you run out of reactants.
b. The rate of the reaction will increase rapidly, taper off, and plateau.
c. The rate of the reaction will increase slowly, plateau, and then drop sharply back to zero.
d. The resulting graph will be a perfect bell curve.



13. In the graph above, the optimal pH for enzyme 1 is

a. 2
b. 3
c. 4
d. 5

14. If all three enzymes analyzed in the graph above catalyze the same reaction and your conditions require a pH of 7, the best enzyme to use would be

a. enzyme 1
b. enzyme 2
c. enzyme 3
d. either enzyme 2 or 3

15. When an enzyme has an allosteric activator, it means that

a. a product of the enzyme, or other downstream product, will bind to the enzyme at the active site and inhibit enzyme activity.
b. a product of the enzyme, or other downstream product, will bind to the enzyme at the active site and stimulate enzyme activity.
c. a product of the enzyme, or other downstream product, will bind to the enzyme at a site other than the active site and inhibit enzyme activity.
d. a product of the enzyme, or other downstream product, will bind to the enzyme at a site other than the active site and stimulate enzyme activity.