Enzymes and Energy
Chapter 4

1. Define catalyst.
2. Describe the following about an enzyme
   A. How does it increase the rate of a reaction
   B. To what extent does an enzyme participate in a reaction
   C. Active site
   D. Conformation
   E. Substrate
   F. Product
3. Define “enzyme activity”
4. What are the factors that affect enzymatic activity?
5. How is enzyme activity used clinically?
6. How are most enzymes named?
7. What reactions do the following enzymes catylize:
   A. Phosphatase
   B. Kinase
   C. Amylase
8. What is the function of a cofactor and a coenzyme
9. Are enzymes always active? If not, how are enzymes activated and deactivated?
10. How are enzymes affected by the substrate concentration?
11. Are all enzymatic reactions reversible?
12. In a reversible reaction, what determines the direction in which the reaction is catalyzed by the enzyme?
13. What are metabolic pathways, how are enzymes involved?
14. How does end-product inhibition work?
15. Describe allosteric inhibition.
16. What happens to a metabolic pathway when an enzyme in that pathway is defected?
17. Define the first and second law of thermodynamics.
18. Define endergonic reactions and exergonic reactions.
19. How are endergonic and exrgonic reactions coupled to each other?
20. Describe oxidation-reduction reactions?
    A. What is a reducing agent?
    B. What is an oxidizing agent?
21. Describe the function of NAD and FAD as oxidizing and reducing agents.