1. (2 pts) In protein digestion outline the steps that take place in the stomach and in the small intestine.

2. (2 pts) What is the ratio of ATP produced by the oxidation of glucose under aerobic versus anaerobic conditions?

3. (2 pts) How many ATPs are produced by the complete oxidation of maltose?

4. (2 pts) Write the equation for the oxidative deamination of glutamate.
5. (4 pts) Consider the β oxidation pathway for fatty acids.
   a. Why is the oxidation of fatty acids called β oxidation?
   b. What coenzymes are required?
   c. When is each coenzyme used?
   d. What is the yield of ATP molecules for one cycle of β oxidation?

6. (2 pts) What are the possible products of pyruvate under anaerobic conditions?

7. (3 pts) Why does FADH2 have a yield of two ATP via the electron chain, but NADH yields three ATP?

8. (3 pts) According to the chemiosmotic theory, how does the proton gradient provide energy to synthesize ATP?