

## Things to Know for Quiz 11

Chem 30B, Spring 2019

### Chapter 24 (Lipid Metabolism)

1. Triglycerides can be hydrolyzed. What are the products?
2. What happens to the glycerol? Be able to figure out how many ATP are produced from the oxidation of the glycerol.
3. Steps in the oxidation of fatty acids:
  4. 1. activation (Where does this occur?)
  5. 2.  $\beta$ -oxidation (several cycles) (Where does this occur?)
  6. 3. Acetyl CoA that forms  $\rightarrow$  Krebs cycle (CAC) (Where does this occur?)
7. State the type of reaction that occurs in each step of  $\beta$ -oxidation. Describe how the structure is changing in each step.
8. Be able to figure out the yield of NADH, FADH<sub>2</sub>, and acetyl CoA from the  $\beta$ -oxidation of any fatty acid.
9. Be able to figure out the total yield of ATP from the complete oxidation of any fatty acid. (This will include ATP formed from the Krebs cycle and the electron transport chain.)
10. Remember that for the electron transport chain, the maximum yield of ATP is
  11. 3 ATP/1 NADH and 2 ATP/1 FADH<sub>2</sub>. The current "best estimates" are
  12. 2.5 ATP/1 NADH and 1.5 ATP/1 FADH<sub>2</sub>.
13. When are fatty acids synthesized and when are they broken down?
14. You will get the citric acid cycle handout and the handout that shows the reactions for beta-oxidation of fatty acids.

### Chapter 26 (Nucleic Acids and Protein Synthesis)

1. What does DNA stand for? What does RNA stand for?
2. What is the difference between a gene and a chromosome?
3. What are the components of a nucleotide?
4. What are the possible sugars? What are the possible nitrogen bases? Which are in DNA, and which are in RNA?
5. What is the difference between a purine and a pyrimidine? Which bases are purines and which are pyrimidines?
6. What is a nucleoside?
7. Be able to draw and name ribose and deoxyribose.
8. Be able to draw and name nucleotides and nucleosides.
9. Be able to draw and name nucleotide diphosphates and triphosphates.
10. You will get a copy of the structures of the nitrogen bases for the quiz.