CHEM-342 Introduction to Biochemistry
Mid-term Examination - Group Part
Friday, 24 March 2006
H. B. White - Instructor
25 Points

Group Members _____

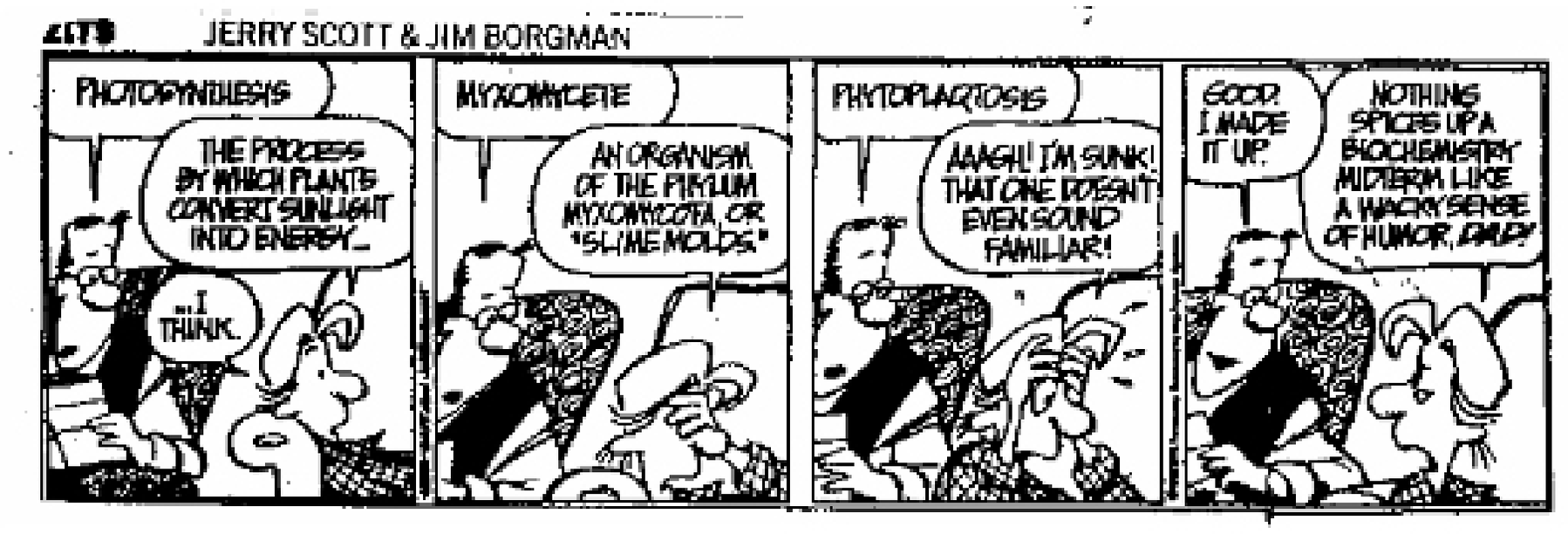
_____

_____

_____

Important - Please read this before you turn the page.

1. Write your names or group number on each page of the exam you turn in.
2. You may refer to your notes, course reader, handouts, or graded homework assignments. (Wireless laptop computers and textbooks cannot be used.)
3. Please read each question carefully and make sure that you have thought it through with **everyone**'s input before converging on a solution.
4. If you do not agree with your group, you may submit the examination under your own name for separate grading.



1. Virtually every year during the course, a news item or high profile research article appears that has direct relevance to CHEM-342. This year is no exception. The *Wilmington News Journal* on February 21 carried a front-page article entitled, "Using carbon monoxide to keep meat pink has some seeing red." It displayed the pictures below of eight-day old ground sirloin with the article.

If meat is treated with carbon monoxide while it is fresh it keeps its fresh color for a long time (left). Untreated meat on the shelf gradually browns (right) and is not attractive to consumers despite being perfectly good. If meat that has turned brown is treated with carbon monoxide, it will not become red. The meat industry has recently exploited this observation to prolong the attractive shelf-life of red meat.

A. (5 points) Why does meat brown as it ages?
B. (5 Points) Using words and diagrams, explain what happens when the meat industry treats meat with carbon monoxide.
C. (15 Points) A recent petition to the FDA asks that the practice of treating meat this way be banned. Assume your group is an FDA team assigned to investigate this issue and make report. What would your team want or need to know before issuing a report? (i.e. What are your top ten learning issues?)