Biology 1406 Review Sheet for Exam 3 Mr. Dees

Note: the following is a brief synopsis of the topics covered by the first lecture exam. Be sure that this sheet is not all that you study, for this list may be incomplete and is not very detailed. Anything covered in lecture is fair-game for the exam. Use this to be sure you do not have any "gaps" in your notes. A helpful section is provided at the end of each chapter in the form of a chapter summary, key terms, and review questions..

Chapter 9

catabolic pathways
phosporylation of ADP
understand how cellular respiration and photosynthesis are linked
two basic catabolic paths – compare-contrast
aerobic respiration /cellular respiration
fermentation
organic fuels
redox reactions
understand the oxidation-reduction reaction process
aerobic cellular respiration reaction – balanced form
understand which substances are oxidized and which are reduced
three stages of cellular respiration – understand basic reactions and locations and products of each portion – be able to trace various numbers of glucose molecules through the process and answer simple math questions like we did in class
glycolysis – two phases; net production, gross production of ATP and NADH
energy carrier molecules – NADH and $FADH_2$
pyruvate – how many carbons??
Krebs / Citric acid cycle – location?
Hans Krebs
conversion to Acetyl Co A – CO_2 produced
number of ATP, NADH, $FADH_2$ & CO_2 produced in Krebs cycle
oxidative phosporylation
electron transport
Chemiosmosis
cristae membrane
matrix
final electron acceptor???
how is a water molecule made?
ATP synthase – proton pistol
net production of ATP during oxidative phosporylation
net yield of ATP per glucose completing aerobic cellular respiration
why does this process require oxygen?
compare ATP production with fermentation paths
latic acid
alcohol fermentation

Chapter 10

know balanced reaction for photosynthesis
autotrophs
producers
heterotrophs
consumers
photoautotroph examples
leaf as example of form=function
epidermis
guard cells
stoma
mesophyll
chloroplast