BCBT 100 – Exam 4 Practice Questions {Bodwin – Fall 2012}

Describe and identify the components of a seed.
Describe the difference between monocot and dicot seeds. Give examples of each.
What are some similarities and differences between grains, legumes, and nuts? How do they grow, what food molecules do they contain, etc
How is flour made? (from the McGee book)
What is "leavening"?
Describe the process and chemical reaction of chemical leavening.
What is the difference between baking soda and baking powder? Why are BOTH sometimes called for?
What is gluten? How is gluten formed? What type of interactions between molecules are present in gluten?
How does kneading encourage gluten formation?
Describe the ways in which gluten can be modified when making a dough. What physical or chemical steps can be taken to increase gluten formation? What physical or chemical steps can be taken to decrease gluten formation?
In aerobic metabolism of sugars, what are the products of the chemical reaction?
What are the products of the chemical reaction when yeast metabolizes sugars?
Describe the differences between yeast-leavening and chemical-leavening. What are some advantages of each?
What is Charles' Law?
If the absolute temperature of 6.0L of a gas is tripled, what is the new volume of the gas?
What role does starch play in the structure of baking bread?
Why is it important that the bubbles in baking bread merge and pop during the baking process?
What are some of the results/effects of having a lot of steam present when baking breads?
What does it mean for a bread to become "stale"? How can staleness be prevented? Reversed?
How does the protein content of different types of flour affect the bread made from those flours?
What food molecules must be present for Maillard browning to occur?
What property/properties do aldehydes contribute to foods?
Above what temperature does significant Maillard browning take place?
What cooking conditions encourage Maillard browning? What cooking conditions inhibit Maillard browning?
Above what temperature does significant caramelization take place?
What chemical reaction is catalyzed by phenol oxidase?
What molecular changes take place that cause enzymatic browning?
What conditions would encourage more sugar browning/caramelization when cooking?
What role does water play in most browning reactions?
Where is chocolate grown?
Describe the process of making chocolate from the tree to the finished bar.
What type(s) of browning is/are responsible for the brown color of chocolate?
Which type of chocolate plant has the most delicate flavors?
What is the purpose of "Dutch processing" of cocoa powder?
Describe the molecular changes that take place when chocolate is tempered.
If a chocolate bar is not stored properly it can have a "dusty" appearance. Describe what has happened.
What causes chocolate to "seize"?
What are the advantages of letting chocolate melt in your mouth when tasting it?