Science of Cooking  Chpt 1 practice problems

These are not a complete list but a few from prior classes to help you see the types of questions that might show up on an exam.
No - there are no answers - BUT they are in our notes and in the book!!!! ;>

1. The key function(s) of water in terms of both cooking and chemistry is it(s)__________?  
   a. Polarity  
   b. Ability to hydrogen bond  
   c. Ease in dissolving other substances  
   d. None of the above  
   e. All of the above

2. Ice (solid) water damages cells of food which because ___?  
   a. Water expands when turning into solid form (ice)  
   b. The salt of the cells is excluded from the water bonds  
   c. Proteins denature and curl at low pH  
   d. Hydrogen bonds become tighter at low temperatures and cause the solid ice to contract  
   e. All of the above

3. An acid is any compound that produces ____?  
   a. A higher pH number  
   b. H+ ions  
   c. OH- ions  
   d. Citric acid  
   e. Emulsifier

4. A molecule that reacts with OH- to neutralize pH and form water is a(an)___?  
   a. Acid  
   b. Base  
   c. pH 7 chemical  
   d. Oxygen  
   e. Emulsifier

5. Milk sugar ______?  
   a. Is lactose which is made of two glucose molecules  
   b. Is lactose which is made of glucose and galactose  
   c. Is sucrose which is made of glucose and fructose  
   d. Is the same as table sugar  
   e. Is not degraded by the enzyme lactase

6. A branched starch found in potatoes rice and grains and used as a source of energy in the human diet is ______?  
   a. Amylose  
   b. Amylopectin  
   c. Cellulose  
   d. Glucose  
   e. Glycerol

7. Simple sugars are considered “bad” sugar vs complex carbohydrates which are often thought of as “good” sugar is due to which of the following?  
   a. Simple sugars are indigestible by intestinal bacteria  
   b. Complex carbohydrates are quickly converted to di- and mono-saccharides to easily and quickly enter the blood stream  
   c. Simple sugars are not good emulsifiers  
   d. Complex carbohydrates such as starch hold water and are tasteless  
   e. A single bolus of simple sugar causes a quick rise in blood sugar followed by a large drop in blood sugar, while complex carbohydrates lead to a slow and steady supply of blood sugar

8. When grains of starch is dissolved in water, the starch ______  
   a. Binds fats keeping the complex as a gel  
   b. Interacts with water soluble vitamins  
   c. Absorbs water, swells and forms a gel when cool  
   d. Binds proteins to form very effective curds  
   e. Is not used in breads pastries or sauces

9. The on of the two monomers found in milk sugar is used to create insulation cells in brain and neural tissue is called ___  
   a. Galactose  
   b. Sucrose  
   c. Fructose  
   d. Maltose  
   e. Inulin

For the next several questions, please refer to the figure page at the end of this test - no images are attached for this practice set but you can tell the kinds of questions that might arise from here

10. Which of the following is an image of a lipid?  
    a. 1  b. 2  c. 3  d. 7  e. none of the above

11. Which of the two lipids would you expect to see in vegetable oil and not butter?  
    a. 1  b. 3  c. 4  d. 7

12. Figure ___ is a polymer of simple sugars.  
    a. 1  b. 2  c. 3  d. 5  e. 7

13. Which figure is an image of a monosaccharide?  
    a. 2  b. 3  c. 5  d. 8  e. all of the above

14. Which figure represents a protein?  
    a. 1  b. 2  c. 6  d. 7  e. 9

15. Which of the two figures represents a lipid with a higher melting point?  
    a. Fig 8  b. Fig 9

16. Long polymers of carbohydrates that are not digested are classified as  
    a. Insoluble proteins  
    b. High melting point fatty acids  
    c. Fiber  
    d. DNA and RNA  
    e. None of the above

17. When canning fruit to make jellies, acids like citrate is used to help ______ form a stable gel?  
    a. Pectin  
    b. Plant Gums  
    c. Cellulose  
    d. Emulsifiers  
    e. Inulin

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