

**FOOD SCIENCE AND TECHNOLOGY
CAREER DEVELOPMENT EVENT
2008 TEST**

1. As popcorn heats, the _____ inside each kernel expands. Pressure builds, causing the corn to pop.
 - a. lipid
 - b. protein
 - c. carbohydrate
 - d. water**

2. Mouthfeel, one of several sensory sensations that contribute to the perception of flavor, is influenced by a food's _____.
 - a. temperature**
 - b. color
 - c. nutritional quality
 - d. none of the above

3. The preventative food safety concept called _____ has seven principles.
 - a. GMPs
 - b. HACCP**
 - c. GAPs
 - d. SSOPs

4. The enzyme _____ causes milk to coagulate by converting the milk protein casein into a compound called paracasein.
 - a. maltase
 - b. rennin**
 - c. papain
 - d. bromelin

5. The _____ on a package of chocolate chip cookies tells the consumer what nutrients are present in the product.
 - a. Food Pyramid
 - b. Ingredient Statement
 - c. Nutrition Facts panel**
 - d. Nutrition Statement

6. When you eat breakfast in the morning, digestion of your cereal starts in your _____.
 - a. stomach
 - b. esophagus
 - c. intestine
 - d. mouth**

7. Fat in products such as peanut butter and potato chips can _____ over time to become rancid, causing undesirable flavors and odors.

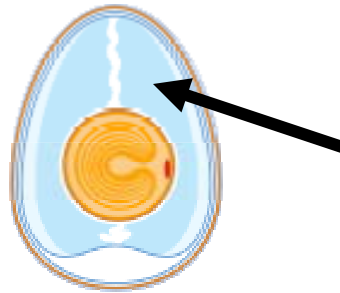
- a. oxidize**
- b. denature
- c. caramelize
- d. dehydrate

8. For consumer safety, ground beef should always be cooked to a minimum internal temperature of 160°F before it is consumed. This would be equivalent to ____°C.

- a. 345.6
- b. 71.1**
- c. 129.8
- d. 120.9

9. Identify the part of the chicken egg that the arrow is pointing to in this illustration.

- a. air pocket
- b. shell membrane
- c. chalaza
- d. thick albumen**



10. A _____ is a foodborne illness that occurs when microorganisms grow in food and produce a toxin in the food. The toxin causes illness when the food is consumed.

- a. food infection
- b. stomach flu
- c. food intoxication**
- d. case of influenza

11. Sulfiting is sometimes used for pretreatment of fruits and vegetables that are to be dehydrated to _____.

- a. enhance the safety of the finished fruits and vegetables
- b. shorten drying time
- c. slow oxidation and enzymatic browning**
- d. enhance the crunchiness of the finished fruits and vegetables

12. In the process of canning green beans, the point in the beans that is the last to reach the temperature considered safe for killing microorganisms is known as the_____.

- a. hot point
- b. safety point
- c. sterile point
- d. cold point**

13. The chemical state of the meat protein _____ determines the color of meat.

- a. myoglobin**
- b. tropomyosin
- c. nebulin
- d. desmin

14. The addition of vitamin A to margarine is an example of food _____.
a. enrichment
b. nutrification
c. fortification
d. restoration
15. Food will keep colder longer in an ice chest with ice at 0°C compared to an ice chest with water at 0°C because of the _____.
a. latent heat of fusion
b. condensation
c. latent heat of vaporization
d. melting point of water
16. Meat is composed of fibrous proteins called _____.
a. collagen and casein
b. elastin and gliadin
c. serum albumin and conglycinin
d. actin and myosin
17. BHT is an ingredient added to Cap'n Crunch® cereal to _____.
a. prevent rancidity
b. act as a coloring agent
c. maintain the texture of the cereal when milk is added
d. give the cereal a corn and oat taste
18. The pH scale is a mathematical scale in which the concentration of hydrogen ions in a solution is expressed as a number from 0 to ____ to indicate acidity.
a. 7
b. 9
c. 14
d. 18
19. When a food processing plant is cleaned and sanitized, a bacteriostatic agent may be used that will _____.
a. kill bacterial cells
b. inhibit the growth of bacteria, but does not necessarily kill them
c. enhance the growth of probiotic bacteria
d. have no effect on bacteria
20. The F-value is the _____.
a. length of time required at a specific temperature to destroy 90% of the microorganisms present
b. number of degrees F required for a specific thermal death time curve to pass through one log cycle, or 90 percent destruction
c. number of minutes required to destroy a specific number of microbes at 250°F
d. increase in death rate due to a 10°C increase in temperature

21. Butter contains a high amount (about 4 percent) of _____ acid which is a short chain fatty acid that gives butter a buttery aroma, especially as it warms up.
- a. butyric**
 - b. caprylic
 - c. behenic
 - d. linolenic
22. Sugar, one of the most common sweeteners in the world, is derived primarily from _____.
- a. corn
 - b. maple trees
 - c. honey
 - d. sugar cane and sugar beets**
23. An egg foam is formed by beating egg white. Denatured by beating, the egg protein forms a _____.
- a. alimentary solution
 - b. precipitate
 - c. colloidal dispersion**
 - d. polymer
24. _____ is a packaging technology used for some vegetable, meat, and potato products that creates a specific gaseous environment so the food product has a longer shelf life.
- a. Aerobic packaging
 - b. Modified atmosphere packaging**
 - c. Aseptic packaging
 - d. Edible packaging
25. Since 1963, _____ has helped nations agree on food safety and trade regulations.
- a. Centers for Disease Control and Prevention
 - b. National Academy of Science
 - c. Codex Alimentarius**
 - d. Department of Homeland Security
26. Swiss cheese has holes because it is ripened with organisms that produce _____.
- a. carbon dioxide gas**
 - b. proteolytic enzymes
 - c. nitrogen gas
 - d. ethyl alcohol
27. _____ is the degree of the availability of water in a food.
- a. Moisture content
 - b. Brix
 - c. Viscosity
 - d. Water activity**

28. Gelatin is made by taking _____, a protein that is not easily soluble in water, and altering its structure, and then reforming it with the addition of a sweetening agent, a flavorant for taste, and a colorant.

- a. cellulose
- b. agar
- c. elastin
- d. collagen**

29. The government agency that created a special class of additives that are generally recognized as safe was the _____.

- a. USDA
- b. EPA
- c. FDA**
- d. FSIS

30. The most important ingredient in bread is _____ because it determines the texture, color, and taste of the bread.

- a. flour**
- b. shortening
- c. yeast
- d. sugar

31. _____ is a pigment that contributes to the red color of tomatoes and raspberries.

- a. Anthocyanin**
- b. Annatto
- c. Carmine
- d. Enocianina

32. _____ is a nutritive sweetener because it produces calories when it is metabolized in the body.

- a. Sucralose
- b. Acesulfame K
- c. Sucrose**
- d. Saccharin

33. Vegetables such as lettuce wilt, or become limp when _____ is lost.

- a. homeostasis
- b. immiscibility
- c. glycogen
- d. turgor**

34. _____ is an ingredient used in cured meat products that inhibits the growth of *Clostridium botulinum*.

- a. Sodium erythorbate
- b. Sodium nitrite**
- c. Sodium phosphate
- d. Sodium lactate

35. A _____ is a piece of equipment that is used to provide a steady supply of circulated, heated air to dry foods.

- a. dehydrator**
- b. microwave
- c. heat exchange pasteurizer
- d. retort

36. Oil and water will not mix together in a salad dressing because they are _____.

- a. hydrophobic
- b. hydrophilic
- c. immiscible**
- d. hydroscopic

37. Butterscotch pudding that has been thickened with starch can experience retrogradation if held in the refrigerator for a few days and have _____.

- a. caramelization
- b. meniscus
- c. syneresis**
- d. coagulation

38. _____ is related to a food's hydrogen ion concentration, or with the acid's potential for ionization.

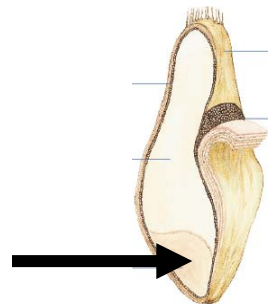
- a. Sweetness
- b. Sourness**
- c. Bitterness
- d. Savoryness

39. Hot dogs, cold cuts, and soft cheeses are ready-to-eat foods that have been known to be responsible for foodborne outbreaks due to _____. This organism can survive at greater temperature extremes than most other organisms.

- a. *Clostridium botulinum*
- b. *Staphylococcus aureus*
- c. *Salmonella enteritidis*
- d. Listeria monocytogenes**

40. Identify the part of the wheat kernel that the arrow is pointing to in this illustration.

- a. husk
- b. germ**
- c. endosperm
- d. bran



41. _____ is a scale for relating specific gravity to sugar content in a beverage.

- a. Water activity
- b. pH
- c. Brix**
- d. Iodine number

42. In milk, the enzyme lactase breaks down lactose, or milk sugar, into _____ and glucose.
- a. maltose
 - b. galactose**
 - c. fructose
 - d. amylose
43. Most of the world's supply of cocoa comes from _____.
- a. Brazil
 - b. West Africa**
 - c. Malaysia
 - d. Caribbean
44. Sourdough bread has a unique sour flavor that is due to the presence of _____ organisms in the starter culture.
- a. Lactobacillus**
 - b. Pseudomonas
 - c. Cornebacterium
 - d. Aspergillus
45. Table sugar is composed of _____.
- a. carbon, nitrogen, and oxygen
 - b. carbon, chloride, and nitrogen
 - c. carbon, hydrogen, and sodium
 - d. carbon, hydrogen, and oxygen**
46. Baking powder is a leavening compound that contains baking soda, _____, and starch or some other filler.
- a. sodium chloride
 - b. dry bases
 - c. dry acids**
 - d. sodium phosphate
47. Cream creates a better foam than milk because it _____.
- a. is more viscous than milk**
 - b. is less viscous than milk
 - c. has a high surface tension
 - d. has a lower fat content than milk
48. Nabisco markets Oreo® Double Stuf sandwich cookies. One serving, equivalent to 1 ounce, contains 7 grams of fat, 2.5 grams of saturated fat, 0 mg of cholesterol, 120 mg of sodium, 21 grams of carbohydrates, 1 gram of dietary fiber, 13 grams of sugar, and 1 gram of protein. One serving would be equivalent to _____ calories.
- a. 203
 - b. 221
 - c. 119
 - d. 151**

49. After World War II, studies were conducted to replace erucic acid in rapeseed oil with _____ to create canola oil.

- a. linoleic acid
- b. linolenic acid
- c. oleic acid**
- d. palmitoleic acid

50. To obtain the most reliable sensory information from people about a food product, it is recommended that sensory scientists hold sensory evaluation panels in _____.

- a. early morning
- b. late morning or midafternoon**
- c. midafternoon or late day
- d. lunchtime