Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. Americans spend only about ____ percent of their personal consumption expenditures for food to be eaten at home.
   a. 10  
   b. 8  
   c. 5  
   d. 3

2. Away-from-home meals and snacks now capture ____ percent of the U.S. food dollar.
   a. 45  
   b. 30  
   c. 60  
   d. 50

3. Food is a ____ commodity.
   a. global  
   b. national  
   c. local  
   d. state

4. The United States is the largest exporter of which two items?
   a. milk and sugar  
   b. oranges and apples  
   c. potatoes and carrots  
   d. cereal grains and soybeans

5. Over ____ new food products are introduced each year.
   a. 10,000  
   b. 5,000  
   c. 20,000  
   d. 30,000

6. The periodic table arranges elements by the number of ____ in their outermost energy levels.
   a. neutrons  
   b. atoms  
   c. protons  
   d. electrons

7. Covalent bonds are formed by the sharing of a pair of ____.
   a. atoms  
   b. neutrons  
   c. electrons  
   d. protons

8. What is the symbol for salt?
   a. NaCl  
   b. C₆H₁₂C₆  
   c. H₂O  
   d. CO₂

9. Hydrogen bonds are formed when a hydrogen atom is shared between two ____.
   a. molecules  
   b. atoms  
   c. elements  
   d. neutrons

10. Which types of chemical bonds are the weakest?
    a. covalent  
    b. Van der Waals  
    c. ionic  
    d. none of the above

11. Organic chemistry involves molecules that contain which element?
    a. carbon  
    b. nitrogen  
    c. oxygen  
    d. calcium

12. Carbohydrates are composed of ____ and ____.
    a. carbon, water  
    b. hydrogen, oxygen  
    c. zinc, aluminum  
    d. gold, calcium
13. Which of the following is the source of carbohydrates?
   a. plant  
   b. human  
   c. animal  
   d. insect
14. Vitamin ____ functions in normal blood clotting.
   a. C  
   b. A  
   c. D  
   d. K
15. Sucrose is commonly referred to as ____.
   a. salt  
   b. carbohydate  
   c. sugar  
   d. glucose
16. ____ is the most common polysaccharide added to food products.
   a. Water  
   b. Salt  
   c. Glucose  
   d. Starch
17. Identify the complex carbohydrate that cannot be digested.
   a. fiber  
   b. cellulose  
   c. sugar  
   d. fat
18. ____ makes up 14 to 17 percent of the skeleton.
   a. Magnesium  
   b. Iron  
   c. Phosphorus  
   d. Sodium
19. ____ functions in carbohydrate metabolism.
   a. Zinc  
   b. Thiamin  
   c. Riboflavin  
   d. Vitamin B
20. How many cups of water do humans require per day?
   a. 1 to 3  
   b. 10 to 12  
   c. 5 to 9  
   d. 7 to 11
21. Which micromineral is essential for the production of the thyroid hormones?
   a. calcium  
   b. iodine  
   c. fluorine  
   d. magnesium
22. RDA stands for Recommended ____ Allowances.
   a. Dose  
   b. Dietary  
   c. Dairy  
   d. D-vitamin
23. The RDA was initially established during ____.
   a. World War II  
   b. World War I  
   c. the Korean Conflict  
   d. the Depression
24. The first RDA were published by a group known as the ____.
   a. Food and Drug Administration  
   b. National Institutes of Health  
   c. National Nutrition Program  
   d. Environmental Protection Agency
25. The RDA is revised approximately every ____ years.
   a. five  
   b. ten  
   c. two  
   d. three
26. ____ percent of the adult body is made up of water.
   a. Fifty-five  
   b. Ninety-five  
   c. Seventy-five
27. An adult should drink ____ glasses of water per day.
   a. 6 to 8  
   b. 7 to 9  
   c. 5 to 7  
   d. 8 to 10

28. Carbohydrates and proteins provide about ____ calories per gram.
   a. 5    
   b. 2    
   c. 4    
   d. 6

29. Fat contributes about ____ calories per gram.
   a. 9    
   b. 10   
   c. 8    
   d. 7

30. Alcohol supplies about ____ calories per gram.
   a. 6    
   b. 7    
   c. 5    
   d. 4

31. Fiber is important in ____ function.
   a. bowel    
   b. stomach  
   c. muscle   
   d. skeletal

32. Most vitamins are measured in ____.
   a. milligrams  
   b. grams      
   c. liters     
   d. kilograms

   To answer this question, you will need Table A-8 which will be provided by your instructor.

33. One ounce of blue cheese has ____ grams of fat.
   a. five 
   b. six  
   c. seven 
   d. eight

34. A twelve-ounce glass of root beer has ____ calories.
   a. 150  
   b. 200  
   c. 165  
   d. 172

35. Lowfat (1%) chocolate milk has ____ grams of carbohydrates.
   a. 15   
   b. 26   
   c. 32   
   d. 21

36. One slice of whole wheat bread is ____ percent water.
   a. 28   
   b. 25   
   c. 32   
   d. 38

37. One spear of raw broccoli contains ____ milligrams of phosphorus.
   a. 93   
   b. 85   
   c. 100  
   d. 79

38. The most important food appearance factor is ____.
   a. color  
   b. size   
   c. shape 
   d. packaging

39. Naturally occurring ____ play a role in food coloring.
   a. enzymes  
   b. pigments
40. _____ or spectrophotometers can be used for measuring transparent foods.
   a. Thermometers
   b. Meters
   c. Liquid
   d. Colorimeters

41. Fruits and vegetables are graded based on their _____ and _____.
   a. size, shape
   b. color, size
   c. smell, shape
   d. smell, color

42. _____ standards help ensure food quality.
   a. National
   b. Quality
   c. Packing
   d. Legal

43. _____ can be achieved on the basis of density or size and shape.
   a. Separation
   b. Quality
   c. Clarification
   d. Flavor

44. Sediment and microorganisms can be removed centrifugally in a _____.
   a. tube
   b. clarifier
   c. pan
   d. box

45. A _____ pump consists of a reciprocating or rotating cavity between two lobes or gears and a rotor.
   a. positive
   b. centrifugal
   c. negative
   d. hand

46. _____ and _____ are already solid and lend themselves to sun or tray drying.
   a. Cheese, meats
   b. Fruits, vegetables
   c. Cheese, vegetables
   d. Fruits, meats

47. The most common drying method is _____ drying.
   a. freeze-
   b. sun or tray drying
   c. spray
   d. oven

48. _____ are the largest of the microorganisms but are still single cells, and some produce spores.
   a. Yeast
   b. Bacteria
   c. Molds
   d. Ameba

49. Microbes that prefer cold temperatures are _____.
   a. mesophilic
   b. thermophilic
   c. psychrophilic
   d. obligative

50. Bacteria or molds that require atmospheric oxygen are _____.
   a. anaerobic
   b. aerobic
   c. mesophilic
   d. thermophilic

51. Most bacteria are killed at _____° to _____°F, but spores are not.
   a. 150, 175
   b. 180, 200
   c. 160, 200
   d. 175, 200

52. Microbial growth slows at temperatures under _____°F.
   a. 80
   b. 70
   c. 60
   d. 50

53. _____ can destroy the microorganisms and inactivate enzymes.
54. _____ is the transfer of heat from one particle to another by contact.

55. _____ heating means that the circulation of currents in one region inside a can distributes the heat to another.

56. _____ is the transfer of energy in the form of electromagnetic waves.

57. To achieve continuous pasteurization in milk, the milk needs to be heated to 161°F for ____ seconds.
a. 15  b. 20  c. 10  d. 5

58. Low-acid foods have pH values of ____ or less.
a. 5.2  b. 4.6  c. 3.9  d. 4.2

59. Cool storage is considered any temperature from ____º to ____ºF.
a. 28, 68  b. 18, 48  c. 28, 78  d. 32, 58

60. Household refrigerators usually run at ____º to ____ºF.
a. 45.5, 50.2  b. 40.5, 44.6  c. 32.3, 35.7  d. 21.4, 26.5

61. Intimate contact occurs between the food or package and the refrigerant with ____ freezing.
a. blast  b. pressure  c. cold  d. immersion

62. The freezing point for pure water is ____ºF.
a. 10  b. 15  c. 28  d. 32

63. How long will frozen orange juice last at 10°F?
a. 14 months  b. 6 months  c. 10 months  d. 2 months

64. Which vitamin is used most commonly to control browning in fruits by enzymes?

65. The lower limit of moisture by sun drying is approximately ____ percent.
a. 10  b. 15  c. 20  d. 30

66. Foods high in ____ or other solutes dry more slowly.
a. protein  b. salt  c. sugar  d. water
67. _____ is when water goes from a solid to a gas without passing through the liquid phase.
   a. Transfusion  
   b. Sublimation  
   c. Evaporation  
   d. Condensation

68. Reducing the volume and weight of a product saves _____ during processing.
   a. time  
   b. energy  
   c. money  
   d. flavor

69. Low-temperature _____ evaporators are used for heat-sensitive foods.
   a. ultrafiltration  
   b. osmosis  
   c. vacuum  
   d. drum

70. Sun-dried _____ are the best known of all dried foods.
   a. tomatoes  
   b. peppers  
   c. raisins  
   d. mushrooms

71. To dry fruits out-of-doors, humidity below _____ percent is best.
   a. 60  
   b. 70  
   c. 80  
   d. 90

72. _____ are used in medical research and therapy in many hospitals and universities.
   a. Radioisotopes  
   b. Microwaves  
   c. Satellites  
   d. Mice

73. Foods that are sterilized by irradiation can be stored for _____ without refrigeration.
   a. years  
   b. months  
   c. weeks  
   d. days

74. Microwave radiation is often called _____ radiation.
   a. ionizing  
   b. nonionizing  
   c. electrical  
   d. magnetic

75. Irradiation causes undesirable flavor changes in _____ products.
   a. dairy  
   b. grain  
   c. meat  
   d. vegetable

76. In _____, FDA approved the use of irradiation to control pathogens in fresh and frozen red meats, such as beef, lamb, and pork.
   a. 1988  
   b. 1975  
   c. 1997  
   d. 1990

77. Fermentation is the _____ form of food preservation.
   a. oldest  
   b. newest  
   c. best  
   d. cheapest

78. Lactic acid bacteria with propionic acid bacteria produces _____ cheese.
   a. cheddar  
   b. mozzarella  
   c. swiss  
   d. monterey jack

79. Fermentation microorganisms produce _____ and growth factors in the food.
   a. minerals  
   b. vitamins  
   c. calories  
   d. energy

80. Fermentation is stopped by pasteurizing and _____.
81. Yogurt is a semi-solid fermented milk product that originated centuries ago in _____.
   a. Hungary  
   b. Bulgaria  
   c. Romania  
   d. Germany

82. Sour cream usually has a fat content between ____ percent.
   a. 1 and 2  
   b. 3 and 8  
   c. 10 and 11  
   d. 12 and 30

83. Bread is leavened with ____.
   a. yeast  
   b. sugar  
   c. salt  
   d. baking soda

84. Vinegar usually has an acetic acid content of between 4 and ____ percent.
   a. 6  
   b. 7  
   c. 8  
   d. 9

85. GMO stands for ____.
   a. genetically modified organism  
   b. genetically manufactured oranges  
   c. gross moldy oranges  
   d. genetically malfunctioning organisms

86. The use of food additives is controlled by the ____ clause.
   a. Delaney  
   b. Additive  
   c. Delaware  
   d. Supplement

87. ____ are the most heavily used additives.
   a. Minerals  
   b. Vitamins  
   c. Gums  
   d. Sweeteners

88. Sequestrants are ____ agents.
   a. cheating  
   b. chelating  
   c. chilling  
   d. charcoal

89. In terms of additives, ____ include both natural and synthetic colorants.
   a. flavors  
   b. gums  
   c. colors  
   d. sweeteners

90. ____ dissolve in water and are made as powders, granules (small hard pieces), liquids, or other special-purpose forms.
   a. Dyes  
   b. Lakes  
   c. Sweeteners  
   d. Gums

91. ____ make a food acid or sour.
   a. Flavorings  
   b. Texturings  
   c. Colorings  
   d. Acidulants

92. Research on food irradiation dates back to the ____.
   a. 1930s  
   b. 1940s  
   c. 1910s  
   d. 1920s

93. ____ containers come in direct contact with the food.
   a. Secondary  
   b. Texturings  
   c. Tertiary
94. The outside of the steel can is protected from rust by a thin layer of ____.
   a. tin  
   b. copper  
   c. aluminum  
   d. silver

95. Factory equipment allows hermetically sealed sanitary steel cans to be manufactured and later sealed at the rate of ____ units per minute.
   a. 500  
   b. 1,500  
   c. 1,000  
   d. 1,200

96. Paper used for ____ cartons must come from sanitary virgin pulp.
   a. milk  
   b. juice  
   c. eggs  
   d. butter

97. Newer plastic materials for packaging contain cornstarch, which makes them more ____.
   a. sanitary  
   b. tough  
   c. expensive  
   d. biodegradable

98. Commercial laminates with as many as ____ layers can be custom-designed for packaging a specific product.
   a. eight  
   b. three  
   c. ten  
   d. five

99. ____ containers are versatile but often expensive.
   a. Paper  
   b. Glass  
   c. Plastic  
   d. Metal

100. Retortable pouches for packaging have ____ layers.
    a. three  
    b. two  
    c. four  
    d. five

101. The term total milk solids describes the remaining ____ percent of milk.
    a. 10–11  
    b. 12–13  
    c. 5–7  
    d. 8–9

102. In major production areas, dairies of ____ cows or more are not uncommon.
    a. 1,000  
    b. 500  
    c. 2,000  
    d. 700

103. All raw milk must be processed within ____ hours of receipt at the processing plant.
    a. 24  
    b. 36  
    c. 48  
    d. 72

104. ____ is made by churning pasteurized cream.
    a. Butter  
    b. Ice cream  
    c. Yogurt  
    d. Milk

105. Sweetened condensed milk has an extended shelf-life due to the addition of ____.
    a. salt  
    b. sugar  
    c. oxygen  
    d. vinegar

106. ____ drying is the most used method for producing milk powders.
    a. Wet  
    b. Heat  
    c. Spray  
    d. Air
107. Acid coagulated ____ cheeses may include cottage cheese, quark, and cream cheese.
   a. fresh       c. aged
   b. white       d. foreign

108. _____ milk is a traditional milk fermented with Lactobacillus acidophilus (LA).
   a. Skim       c. Acidophilus
   b. Whole      d. Butter

109. When frozen, about one half of the volume of ice cream is ____.
   a. air       c. cream
   b. water     d. milk

110. All ice cream is made from a basic ____ mix.
   a. cream       c. sugar
   b. milk        d. white

111. One well-known substitute for a milk product is ____.
   a. cheese       c. powdered milk
   b. dried milk   d. margarine

112. Carcasses are chilled for 24 to ____ hours before being graded and processed.
   a. 36       c. 72
   b. 48       d. 96

113. Beef is normally processed at approximately ____ months of age.
   a. 20       c. 17
   b. 15       d. 18

114. ____ at certain concentrations increases the tenderness of meat.
   a. Alcohol    c. Salt
   b. Pepper     d. Sugar

115. Trichinella spiralis (trichinosis) is destroyed at 137ºF, so an internal temperature of 160º to 170ºF is definitely safe for cooking ____.
   a. chicken    c. beef
   b. pork       d. lamb

116. Approximately ____ percent of all poultry carcasses processed in the United States are downgraded (reduced quality) due mostly to bruises.
   a. 10       c. 29
   b. 20       d. 45

117. The most important aspect of poultry meat is its ____ quality.
   a. eating     c. texture
   b. color      d. versatile

118. ____ provides a standardized means of describing the marketability of meat, poultry, or eggs.
   a. Eating    c. Handling
   b. Testing   d. Grading

119. Egg cartons from USDA-inspected plants must display a ____ date.
   a. use-by    c. Julian
   b. expiration d. sell-by
____ 120. A more prominent chalaza indicates a ____ egg.
   a. staler
   b. healthier
   c. fresher
   d. rounder

____ 121. The yolk or yellow portion makes up about ____ percent of the liquid weight of the egg.
   a. 12
   b. 22
   c. 43
   d. 33

____ 122. In the grading process, eggs are examined for both interior and exterior quality and are sorted according to ____.
   a. color
   b. shape
   c. weight
   d. breed

____ 123. A whole egg, including the albumen, contains about ____ calories.
   a. 15
   b. 75
   c. 40
   d. 120

____ 124. What percent of beef is ground for hamburger?
   a. 6
   b. 12
   c. 24
   d. 48

____ 125. What is the average level of cholesterol in an egg?
   a. 80 mg
   b. 120 mg
   c. 240 mg
   d. 320 mg

____ 126. ____ are covered by a crustlike shell and have segmented bodies (like insects).
   a. Crustaceans
   b. Mollusks
   c. Oyster
   d. Clams

____ 127. The lobster is a common ____ used for food.
   a. mollusk
   b. crustacean
   c. shrimp
   d. eel

____ 128. American consumers use approximately ____ percent of the total world catch of fish and shellfish.
   a. 14
   b. 3
   c. 20
   d. 8

____ 129. On average, Americans eat about ____ pounds of fish and shellfish each year.
   a. 15
   b. 5
   c. 20
   d. 30

____ 130. Aquaculture facilities cultivate approximately ____ different species of fish and shellfish and grow a variety of aquatic plants.
   a. 20
   b. 30
   c. 10
   d. 40

____ 131. The National Marine Fisheries Service estimates that approximately ____ plants process fish and shellfish in the United States.
   a. 2,000
   b. 1,700
   c. 2,500
   d. 1,500

____ 132. ____ are sides of fish cut lengthwise away from the backbone.
   a. Fillets
   b. Nuggets
   c. Steaks
   d. Sticks
133. _____ is done by dipping the fish in cold water and then freezing a layer before dipping the fish again.
   a. Cleaning  
   b. Skinning  
   c. Glazing  
   d. Dressing

134. The _____ is the large central portion of the kernel and contains most of the starch.
   a. aleurone  
   b. bran  
   c. endosperm  
   d. germ

135. Potato starch begins to _____ at a lower temperature than cornstarch.
   a. burn  
   b. gelatinize  
   c. smell  
   d. separate

136. The presence of _____ encourages the formation of a gel in cooked and cooled starch mixtures.
   a. milk  
   b. sugar  
   c. carbohydrate  
   d. amylose

137. Milling a hundred pounds of wheat should yield _____ percent straight flour.
   a. 72 to 75  
   b. 75 to 80  
   c. 88 to 90  
   d. 68 to 70

138. The enrichment of bakers’ white bread and rolls was made compulsory by the Federal government in _____ as a war measure to improve the nutritional status of the people.
   a. 1940  
   b. 1941  
   c. 1942  
   d. 1943

139. About _____ percent of the proteins of white flour are relatively insoluble.
   a. 55  
   b. 65  
   c. 75  
   d. 85

140. _____ flour has been used for many products as a substitute flour for individuals with an allergy to wheat flour.
   a. Cake  
   b. Rice  
   c. Bread  
   d. Soy

141. _____ is one of the most fermentable of all the sugars.
   a. Sucrose  
   b. Maltose  
   c. Fructose  
   d. Glucose

142. The most widely known bioproduct from corn is _____.
   a. glue  
   b. ethanol  
   c. paint  
   d. lotion

143. The basic foundation of baked products is usually flour and _____.
   a. sugar  
   b. eggs  
   c. liquid  
   d. leavening

144. _____ flour has a slightly higher percentage of gluten and a much stronger and more elastic gluten than other types of flour.
   a. Bread  
   b. Cake  
   c. Pastry  
   d. Rice

145. _____ flour is used in the United States to make soybean milk and low-gluten baked goods.
   a. Rizcous  
   b. Soybean  
   c. Rye  
   d. Wheat
146. ____ is a soft cheeselike food made by curdling fresh hot soymilk with a coagulant.
   a. Tempeh  
   b. Tofu  
   c. Yogurt  
   d. Cheddar

147. ____ are plant portions generally high in water and fiber.
   a. Tubers  
   b. Stems  
   c. Roots  
   d. Bulbs

148. ____ like onions and garlic are enlargements above the roots.
   a. Roots  
   b. Tubers  
   c. Bulbs  
   d. Stems

149. Under federal guidelines, a substantial number of retailers must provide nutrition information for the ____ most frequently eaten raw vegetables.
   a. 15  
   b. 10  
   c. 20  
   d. 25

150. The vacuole of a plant is composed of ____ with soluble substances dissolved within it.
   a. water  
   b. juice  
   c. oil  
   d. minerals

151. Fruits and vegetables get their characteristic color from ____.
   a. pigments  
   b. sugar  
   c. sunshine  
   d. osmosis

152. The quality of most fresh vegetables can be judged reasonably well by their ____ appearance.
   a. internal  
   b. external  
   c. leafy  
   d. green

153. The use of U.S. grade standards for fruits and vegetables is ____ in most cases.
   a. required  
   b. helpful  
   c. confusing  
   d. voluntary

154. ____ juice is probably the most commonly processed juice.
   a. Apple  
   b. Lemon  
   c. Orange  
   d. Cranberry

155. ____ fruits produce ethylene gas during ripening.
   a. Nonclimacteric  
   b. Climacteric  
   c. Orange  
   d. Tree

156. Fats and oils contain ____ times more energy than proteins and carbohydrates.
   a. 2.25  
   b. 2  
   c. 1.5  
   d. 3

157. ____ make up the major components of fat, butter, shortening, and oil.
   a. Compounds  
   b. Composites  
   c. Spingolipids  
   d. Triglycerides

158. Each gram of fat contains ____ kcal.
   a. 8  
   b. 9  
   c. 7  
   d. 6

159. The first step in the refining process of many oils is ____. 
160. _____ is a selective process that can be controlled to produce various levels of hardening.
   a. Winterization   c. Hydrogenization
   b. Bleaching       d. Degumming

161. Monoglycerides and diglycerides are used as _____ in a variety of foods.
   a. emulsifiers  c. calories
   b. flavor        d. color

162. The U.S. Surgeon General recommended that fat be reduced to _____ percent of the total dietary calories.
   a. 20             c. 15
   b. 30             d. 25

163. One of the most common physical tests performed on fats is a determination of the _____ point.
   a. boiling       c. melting
   b. cooling       d. separating

164. Candies based on a _____ sugar include rock candy, fondant, and fudge.
   a. crystalline    c. white
   b. noncrystalline d. sweet

165. Sugars and sugary foods provide a valuable and inexpensive source of _____.
   a. fat            c. dessert
   b. energy         d. carbohydrates

166. The principal ingredient of candies, including chocolate, is the _____.
   a. eggs           c. sweetener
   b. milk           d. butter

167. The most common sweetener used in candies and chocolates is _____.
   a. glucose        c. maltose
   b. lactose        d. sucrose

168. When the amount of chocolate liquor is greater than _____ percent, the product is bittersweet chocolate.
   a. 10             c. 20
   b. 15             d. 35

169. _____ chocolate is the most common form of eating chocolate.
   a. Milk            c. Dark
   b. Bittersweet     d. Sweet

170. For convenience, chocolate is frequently shipped in as a _____ when intended for use by other food manufacturers.
   a. solid           c. liquid
   b. gas             d. frozen

171. Fructose is a _____ that is approximately 75 percent sweeter than sucrose.
   a. monosaccharide  c. peptide
   b. disaccharide    d. polypeptide

172. _____ is the major ingredient of carbonated soft drinks.
   a. Water           c. Corn Syrup
b. Caffeine  
d. Flavoring

173. When did the world's first vitamin-fortified fruit drinks appear?
a. 1950  
c. 1940  
b. 1942  
d. 1948

174. _____ is an alcoholic beverage made from fermented grape juice.
a. Wine  
c. Scotch  
b. Beer  
d. Whiskey

175. The science and art of growing grapes for wine is called _____.
a. vinification  
c. viticulture  
b. viniculture  
d. vineyard

176. Grapes for wine are harvested when they contain the optimum balance of _____ and acidity.
a. color  
c. sugar  
b. size  
d. alcohol

177. _____ coffee is prepared by forcing an atomized spray of very strong coffee extract through a jet of hot air.
a. Decaffeinated  
c. Black  
b. Instant  
d. Espresso

178. Tea is made when the processed leaves of the tea plant are infused with _____.
a. spices  
c. herbs  
b. boiling water  
d. enzymes

179. Which organization issues the National Primary Drinking Water Regulations?
a. FDA  
c. EPA  
b. NRA  
d. USA

180. Turbidity of water is _____.
a. taste  
c. cloudiness  
b. smell  
d. content

181. In some food processing plants, _____ peeling is used to remove skins from soft fruit and vegetables such as tomatoes.
a. hand  
c. boiled  
b. machine  
d. caustic

182. A successful pollution prevention program requires frequent _____ to keep employees focused and careful.
a. cleaning  
c. expense  
b. retraining  
d. reprimanding

183. _____ serves as a universal solvent.
a. Water  
c. Bleach  
b. Soap  
d. Odor

184. _____ are the tiniest, and probably the simplest form of life.
a. Viruses  
c. Fungi  
b. Parasites  
d. Bacteria

185. Molds and yeast are classified as _____.
a. viruses  
c. fungi  
b. parasites  
d. bacteria
186. _____ organisms tolerate low temperatures and can grow under refrigeration.
   a. Psychrophilic
   b. Mesophilic
   c. Psychrotrophic
   d. Thermotrophic

187. Most pathogenic bacteria are classified as _____.
   a. psychrotrophic
   b. thermotrophic
   c. psychrophilic
   d. mesophilic

188. A rule-of-thumb for the numbers of organisms required to produce toxins or to produce desired or undesired flavors is one million per ____.
   a. ounce
   b. kilogram
   c. gram
   d. pound

189. Water comprises approximately ____ percent of cleaning and sanitizing solutions.
   a. 80 to 89
   b. 95 to 99
   c. 90 to 95
   d. 75 to 85

190. Which agency registers chemical sanitizers and antimicrobial agents for use on food and food product contact surfaces?
   a. EPA
   b. FDA
   c. USDA
   d. HACCP

191. Of the microorganisms, ____ are the greatest threat to food safety.
   a. viruses
   b. parasites
   c. fungi
   d. bacteria

192. Ingredients on a food label are listed in ____ order, based on weight.
   a. descending
   b. ascending
   c. alphabetical
   d. chronological

193. A daily intake of ____ calories has been established as the daily reference value (DRV).
   a. 1,700
   b. 1,800
   c. 1,900
   d. 2,000

194. The word ____ on a label, means that a product contains no amount of, or only trivial or “physiologically inconsequential” amounts of, one or more of these components: fat, saturated fat, cholesterol, sodium, sugars, and calories.
   a. Low
   b. Free
   c. Lean
   d. Reduced

195. The term ____ can be used on the labels of foods that can be eaten frequently without exceeding dietary guidelines for one or more of these components: fat, saturated fat, cholesterol, sodium, and calories.
   a. free
   b. reduced
   c. lean
   d. low

196. Claims for ____ relationships between a nutrient or a food and the risk of a disease or health-related condition are now allowed on food labels.
   a. five
   b. six
   c. seven
   d. eight

197. The DRVs for the energy-producing nutrients are calculated as fat based on ____ percent of calories.
   a. 30
   b. 20
   c. 25
   d. 35
198. Worldwide, about ___ million people are hungry.
   a. 300         c. 800
   b. 500         d. 200

199. If all the world’s undernourished people were gathered in one place, their population would be greater than every continent except ____.
   a. Asia        c. South America
   b. Europe      d. North America

200. ____ implies a person eats but does not receive the amount of nutrients needed to keep the body healthy.
   a. Undernutrition  c. Hunger
   b. Malnutrition   d. Starvation

201. In developing countries, the time before ____ is most difficult for meeting nutritional needs of the people.
   a. planting    c. winter
   b. harvest     d. spring

202. Enough grain is produced in the world to give every man, woman, and child ____ pounds each day.
   a. five        c. two
   b. one         d. three

203. According to the United Nations’ publication, *Ending Hunger: An Idea Whose Time Has Come*, in the last 88 years, ____ countries have done away with hunger; 41 of these countries have done it since ____.
   a. 80, 1970    c. 95, 1980
   b. 70, 1955    d. 75, 1960

204. Eradication of ____ is essential to improve access to food.
   a. malnutrition  c. poverty
   b. undernutrition d. terrorism

205. The almost 6 billion people in the world today have, on average, 15 percent more food per person than the global population of 4 billion people had ____ years ago.
   a. 10          c. 5
   b. 15          d. 20

206. The Declaration on World Food Security pledges its efforts to reducing the number of undernourished people to ____ their present level no later than 2015.
   a. half     c. one-fourth
   b. one-third d. three-fourths

207. ____ prepare pies, breads, rolls, muffins, cookies, cakes, icings and frostings, and many other foods, depending on where they work.
   a. Inspectors c. Butchers
   b. Bakers      d. Chefs

208. Chefs prepare delicious meals and participate in ____ to show off chefs’ talents.
   a. Culinary Olympics  c. Grand Demonstrations
   b. Cooking Contests   d. Worldwide Classes

209. ____ play an important role in the development of new foods and nonfood uses.
   a. Bakers  c. Chemists
   b. Butchers d. Inspectors

210. On first reading, an employer will spend ____ seconds reading a résumé.
a. 5 to 10          c. 15 to 20
b. 10 to 15          d. 20 to 30
Iowa FFA Food Science Question Bank

Answer Section

MULTIPLE CHOICE

1. ANS: B  PTS: 1
2. ANS: A  PTS: 1
3. ANS: A  PTS: 1
4. ANS: D  PTS: 1
5. ANS: A  PTS: 1
6. ANS: D  PTS: 1
7. ANS: C  PTS: 1
8. ANS: A  PTS: 1
9. ANS: A  PTS: 1
10. ANS: B  PTS: 1
11. ANS: A  PTS: 1
12. ANS: A  PTS: 1
13. ANS: A  PTS: 1
14. ANS: D  PTS: 1
15. ANS: C  PTS: 1
16. ANS: D  PTS: 1
17. ANS: A  PTS: 1
18. ANS: C  PTS: 1
19. ANS: B  PTS: 1
20. ANS: D  PTS: 1
21. ANS: B  PTS: 1
22. ANS: B  PTS: 1
23. ANS: A  PTS: 1
24. ANS: C  PTS: 1
25. ANS: A  PTS: 1
26. ANS: B  PTS: 1
27. ANS: A  PTS: 1
28. ANS: C  PTS: 1
29. ANS: A  PTS: 1
30. ANS: B  PTS: 1
31. ANS: A  PTS: 1
32. ANS: A  PTS: 1
33. ANS: D  PTS: 1
34. ANS: C  PTS: 1
35. ANS: B  PTS: 1
36. ANS: D  PTS: 1
37. ANS: C  PTS: 1
38. ANS: A  PTS: 1
39. ANS: C  PTS: 1
40. ANS: D  PTS: 1
41. ANS: A  PTS: 1
42. ANS: B  PTS: 1
43. ANS: A  PTS: 1
44. ANS: B  PTS: 1
45. ANS: A  PTS: 1
46. ANS: B  PTS: 1
47. ANS: C  PTS: 1
48. ANS: A  PTS: 1
49. ANS: C  PTS: 1
50. ANS: B  PTS: 1
51. ANS: B  PTS: 1
52. ANS: D  PTS: 1
53. ANS: A  PTS: 1
54. ANS: A  PTS: 1
55. ANS: C  PTS: 1
56. ANS: B  PTS: 1
57. ANS: A  PTS: 1
58. ANS: B  PTS: 1
59. ANS: A  PTS: 1
60. ANS: B  PTS: 1
61. ANS: D  PTS: 1
62. ANS: D  PTS: 1
63. ANS: C  PTS: 1
64. ANS: B  PTS: 1
65. ANS: B  PTS: 1
66. ANS: C  PTS: 1
67. ANS: B  PTS: 1
68. ANS: C  PTS: 1
69. ANS: C  PTS: 1
70. ANS: C  PTS: 1
71. ANS: A  PTS: 1
72. ANS: A  PTS: 1
73. ANS: A  PTS: 1
74. ANS: B  PTS: 1
75. ANS: A  PTS: 1
76. ANS: C  PTS: 1
77. ANS: A  PTS: 1
78. ANS: C  PTS: 1
79. ANS: B  PTS: 1
80. ANS: A  PTS: 1
81. ANS: B  PTS: 1
82. ANS: D  PTS: 1
83. ANS: A  PTS: 1
84. ANS: C  PTS: 1
85. ANS: A  PTS: 1
86. ANS: A  PTS: 1
87. ANS: D  PTS: 1
88. ANS: B  PTS: 1
89. ANS: C  PTS: 1
90. ANS: A  PTS: 1
91. ANS: D  PTS: 1
92. ANS: D  PTS: 1
93. ANS: B  PTS: 1
94. ANS: A  PTS: 1
95. ANS: C  PTS: 1
96. ANS: A  PTS: 1
97. ANS: D  PTS: 1
98. ANS: A  PTS: 1
99. ANS: C  PTS: 1
100. ANS: A  PTS: 1
101. ANS: B  PTS: 1
102. ANS: A  PTS: 1
103. ANS: D  PTS: 1
104. ANS: A  PTS: 1
105. ANS: B  PTS: 1
106. ANS: C  PTS: 1
107. ANS: A  PTS: 1
108. ANS: C  PTS: 1
109. ANS: A  PTS: 1
110. ANS: D  PTS: 1
111. ANS: D  PTS: 1
112. ANS: B  PTS: 1
113. ANS: A  PTS: 1
114. ANS: C  PTS: 1
115. ANS: B  PTS: 1
116. ANS: C  PTS: 1
117. ANS: A  PTS: 1
118. ANS: D  PTS: 1
119. ANS: C  PTS: 1
120. ANS: C  PTS: 1
121. ANS: D  PTS: 1
122. ANS: C  PTS: 1
123. ANS: B  PTS: 1
124. ANS: C  PTS: 1
125. ANS: C  PTS: 1
126. ANS: A  PTS: 1
127. ANS: B  PTS: 1
128. ANS: D  PTS: 1
129. ANS: A  PTS: 1
130. ANS: B  PTS: 1
131. ANS: D  PTS: 1
132. ANS: A  PTS: 1
133. ANS: C  PTS: 1
134. ANS: C  PTS: 1
135. ANS: B  PTS: 1
136. ANS: D  PTS: 1
137. ANS: A  PTS: 1
138. ANS: B  PTS: 1
139. ANS: D  PTS: 1
140. ANS: B  PTS: 1
141. ANS: D  PTS: 1
142. ANS: B  PTS: 1
143. ANS: C  PTS: 1
144. ANS: A  PTS: 1
145. ANS: B  PTS: 1
146. ANS: B  PTS: 1
147. ANS: B  PTS: 1
148. ANS: C  PTS: 1
149. ANS: C  PTS: 1
150. ANS: A  PTS: 1
151. ANS: A  PTS: 1
152. ANS: B  PTS: 1
153. ANS: D  PTS: 1
154. ANS: C  PTS: 1
155. ANS: B  PTS: 1
156. ANS: A  PTS: 1
157. ANS: D  PTS: 1
158. ANS: B  PTS: 1
159. ANS: A  PTS: 1
160. ANS: C  PTS: 1
161. ANS: A  PTS: 1
162. ANS: B  PTS: 1
163. ANS: C  PTS: 1
164. ANS: A  PTS: 1
165. ANS: B  PTS: 1
166. ANS: C  PTS: 1
167. ANS: D  PTS: 1
168. ANS: D  PTS: 1
169. ANS: A  PTS: 1
170. ANS: C  PTS: 1
171. ANS: A  PTS: 1
172. ANS: A  PTS: 1
173. ANS: D  PTS: 1
174. ANS: A  PTS: 1
175. ANS: B  PTS: 1
176. ANS: C  PTS: 1
177. ANS: B  PTS: 1
178. ANS: B  PTS: 1
179. ANS: C  PTS: 1
180. ANS: C  PTS: 1
181. ANS: D  PTS: 1