

1. *Clostridium botulinum* will not produce toxin in food at a pH of _____.
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 - a. how intense the color is
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3. This substance provides fizz to soft drinks.
 - a. Potassium bicarbonate
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4. The quickest method that a food processor could use for dehydration, especially milk, eggs, and protein powders, is _____ drying.
 - a. tray
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5. _____ is a type of ROP.
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6. In the food sanitation industry, CIP means which of the following?
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12. A _____ is a misfolded protein believed to be the causative agent of bovine spongiform encephalopathy.
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13. The FDA regulates about ____ of the U.S. food supply.
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14. _____ is the inadvertent introduction of an allergen into a product, generally resulting from environmental exposure during processing or handling.
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15. To allow for the expansion of cooking, space left in a container after adding food is called _____.
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17. _____ is an enzyme that breaks down bitter flavor compounds in citrus fruits.
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18. Food packaging that is _____ means that liquids and/or gases can pass through or penetrate the packaging.
- impenetrable
 - impervious
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19. The temperature at which maximum swelling occurs when a liquid is thickened with starch is called the _____ point.
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20. Which of the following is NOT an example of descriptive research when food scientists are collecting data on a product?
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21. The sharpness of a cheese refers to _____.
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25. Maple syrup is an example of a _____.
- heterogeneous mixture
 - solute
 - pure substance
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26. Gelatin may be added to beer or processed apple juice to chemically bind with _____ so it can be filtered out to remove cloudiness and sediments before bottling.
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27. Which of the following is an example of a nutritive sweetener?
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28. The CDC estimates that eggs are involved in about 75% of all _____ outbreaks.
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29. Having enough food to feed the population is the future, or food sustainability, is an important goal for food scientists. Which of the following would NOT be a food sustainability goal for the food industry?
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35. Pumpkin spice is a popular fall flavor marketed in products by many food companies. It is typically a blend of _____.
- cinnamon, anise, ginger, and clove or allspice
 - cinnamon, nutmeg, ginger, and espresso
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36. Glycerol is an example of a(n) _____, that is a food additive used to help retain moisture in products such as soft candies, chewing gum, and confections.
- humectant
 - anticaking agent
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37. The FDA FSMA was signed into law on January 4, 2011. What does FSMA mean?
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1. During the milling process of brown rice, a by-product called “brokens” are produced. While “brokens” are used for a variety of things, it is mostly used for the production of _____.
 - a. beer
 - b. cereal
 - c. rice flour
 - d. fertilizer

2. A food scientist is analyzing multiple published research studies to determine which ingredient would provide the best functionality for a product. When the results of several individual studies are pooled to yield an overall conclusion, it is called _____.
 - a. coherent-analysis
 - b. a cumulative frequency distribution
 - c. meta-analysis
 - d. a correlation coefficient

3. Food products formulated to have a pH ≤ 4.6 will inhibit toxin production by _____.
 - a. *Staphylococcus aureus*
 - b. *Clostridium botulinum*
 - c. *Listeria monocytogenes*
 - d. *Salmonella*

4. Oils high in polyunsaturated fatty acids _____ than oils high in monounsaturated fatty acids.
 - a. will have lower melting points
 - b. will have more hydrogen atoms
 - c. are more dense
 - d. have more trans fatty acids

5. _____ is bright orange in color and found in foods from plant sources.
 - a. Retinol
 - b. Beta-carotene
 - c. Ergocaliferol
 - d. Cobalamin

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6. To keep chocolate from settling out of chocolate milk, _____ are added.
 - a. antioxidants
 - b. foaming agents
 - c. gelling agents
 - d. stabilizers

7. A _____ is a dye, pigment or other substance, which is capable of imparting color when added or applied to a food.
 - a. color additive
 - b. colorant
 - c. secondary direct food additive
 - d. processing aid

8. _____ contribute(s) to bitter flavors in tea and coffee.
 - a. Caproic and caprylic fatty acid ethyl esters
 - b. Carotenoids
 - c. Trans 2-hexenal
 - d. Polyphenols

9. The GRAS list is continually under constant revision. FDA recommends Class 5 ingredients _____.
 - a. be considered safe at present and anticipated levels of use
 - b. be safe at current use levels but evaluate if an increase in use could be hazardous
 - c. have restricted use and require more research
 - d. be removed from the GRAS list

10. High levels of mercury in a fish product is considered a _____ hazard.
 - a. biological
 - b. physical
 - c. chemical
 - d. radiological

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11. It is the responsibility of the _____ to ensure that all ingredients used are of food-grade purity and comply with specifications and limitations in all applicable authorizations.
 - a. FDA
 - b. USDA FSIS
 - c. manufacturer of any food
 - d. FFDC

12. Which is a true statement?
 - a. A food with a higher fat content will freeze slower than a similar food with a lower fat content
 - b. Increase airflow in a freezer decreases freezing rate of food
 - c. The thinner a product is, the longer it will take to freeze in the center
 - d. Water conducts heat away from food slower than fat

13. An iridescent look on the surface of slices meat means _____.
 - a. the quality has declined in the product
 - b. there are pigments in meat compounds causing iridescence when exposed to heat and processing
 - c. there is a safety concern and the meat should not be consumed
 - d. oil has been spread on the meat surface

14. A _____ like compound made of short- and long-chain acid triglyceride molecules is known by the acronym SALATRIM.
 - a. protein
 - b. fat
 - c. starch
 - d. sweetener

15. Microbes that require high salt concentrations to function are called _____ and are used to make bean cakes in Asia.
 - a. halophilic
 - b. psychrotrophic
 - c. thermophilic
 - d. mesophilic

16. Gluten is a protein made up of _____ that provides texture to bread.
 - a. glutenin and gliadin

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- b. globulin and albumin
 - c. glutenin and globulin
 - d. gliadin and albumin
17. When analyzing product texture, _____ refers to how well one part of a food slides past another without breaking.
- a. firmness
 - b. brittleness
 - c. graininess
 - d. chewiness
18. The complete destruction of all microbes in food processing is completed through _____.
- a. blanching
 - b. pasteurization
 - c. sterilization
 - d. commercial sterilization
19. The temperature range in which most bacteria can grow, also known as the danger zone, is defined by the FDA as _____.
- a. 70°F-120°F
 - b. 85°F-115°F
 - c. 55°F-125°F
 - d. 40°F-140°F
20. A food processor is using water as part of a product formulation. GMPs require that this water be suitable or safe for drinking. This is also known as _____ water.
- a. sanitary
 - b. palatable
 - c. comestible
 - d. potable
21. Food scientists recently developed a MRE pizza having at least a three-year shelf life for the military. What does MRE mean?
- a. military ready to eat
 - b. meal ready to eat
 - c. meal real time eating
 - d. military ready to export

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22. In the baking industry, proteases _____ gluten, enabling dough to rise faster.
- conjugate
 - agglomerate
 - bind
 - hydrolyze
23. The process of piercing meat with needles or sharp blades to break up muscle fibers is called _____.
- grinding
 - mechanical tenderization
 - emulsification
 - tumbling
24. Ground beef turns from a bright cherry red color to brown or _____ due to prolonged exposure to oxygen.
- myoglobin
 - deoxymyoglobin
 - oxymyoglobin
 - metmyoglobin
25. Which of the following sugars is not an example of a monosaccharide?
- galactose
 - fructose
 - maltose
 - glucose
26. Milk chocolate must contain at least _____ cocoa liquor.
- 10%
 - 20%
 - 35%
 - 45%
27. Which of the following is an example of a non-newtonian fluid?
- water
 - olive oil
 - corn starch suspension
 - vinegar

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28. To carry out certain provisions of the _____, food facilities that manufacture, process, pack, or hold food are required to be registered.
- FDA
 - FSMA
 - Bioterrorism Act
 - Food, Drug, and Cosmetic Act
29. The functionality of carrageenan in a gummy bear is to provide _____.
- flavor
 - texture
 - color
 - antimicrobial activity
30. _____ are poisonous substances produced by certain molds found primarily on grain and nut crops, but may also be on celery, grape juice, and apples.
- Scrombrotoxins
 - Ipomeamarones
 - Mycotoxins
 - Ciguatera toxins
31. _____ are (is) commonly used in soft drinks to stop the growth of yeast and bacteria.
- Sulfites
 - Humectants
 - Benzoic acid
 - Calcium propionate
32. A small amount of gelatin may be added to beer and processed apple juice to complex with _____ that can cloud these beverages; the complex is then filtered out.
- terpenes
 - isocyanates
 - saponins
 - tannins
33. The reaction between proteins and carbohydrates that causes food to brown is called _____.
- the Maillard reaction

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- b. caramelization
 - c. crystallization
 - d. proteolysis
34. Foodborne illness may occur if a food plant employee is a carrier of _____, a predominant bacterial species normally present on the skin.
- a. *E. coli* O157:H7
 - b. *Salmonella* sp.
 - c. *Staphylococcus aureus*
 - d. *Campylobacter jejuni*
35. When a company sanitizes equipment or a processing area, they are _____.
- a. physically removing soil from the surface
 - b. treating with heat or chemicals to reduce the number of microbes present
 - c. implementing a dry pick up of debris
 - d. treating so the equipment and processing area are free from all living microbes
36. A company is formulating a new food product labeled as low fat. This means _____.
- a. the amount of fat is nutritionally trivial
 - b. it contains 3 g of fat or less per serving or 100 g of food
 - c. it has no more than 25% of the fat of a comparable food
 - d. it has less than 0.5 g of fat per serving
37. Which of the following is not a true statement?
- a. Naturally occurring sugars have a different caloric content than commercially produced sugars
 - b. Table sugar (white granulated sugar) is primarily produced from sugar cane and sugar beets
 - c. Lactose only occurs in milk
 - d. Fructose is the sweetest of naturally occurring sugars
38. Food product dating is _____.
- a. required for all food products
 - b. required for all meat products
 - c. required for all infant formulas
 - d. required for all products that are consumed, regardless of product type

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39. Which of the following is not a true statement?
- Syneresis is leakage of water from a gel
 - Syneresis can toughen food
 - Syneresis can dry food
 - Syneresis is due to ice sublimation
40. Prior to 1991, _____ solder was commonly used to seal the seams on tin cans for food.
- steel
 - tin
 - aluminum
 - lead
41. The measure of water vapor in air, also known as _____, affects the storage shelf life of perishable foods.
- humidity
 - dew point
 - water activity
 - partial pressure
42. Which of these sugars does not form crystals allowing it to be blown and spun into sugar creations?
- Isomalt
 - Honey
 - Sorghum syrup
 - Xylitol
43. Heat sensitive products such as milk, eggs, and protein powders are usually dried using _____ drying to reduce nonenzymatic browning and caramelization of the finished product.
- tray
 - belt
 - drum
 - spray
44. The USDA FSIS ensures that _____ is wholesome, safe, and properly labeled.
- meat, poultry, and seafood
 - meat, poultry, and the processed egg supply
 - meat, poultry, and shellfish

This exam is released without an answer key at the request of the committee. All questions are taken from the references as listed in the Food Science and Technology CDE handbook.

- d. meat, poultry, and the shell egg supply
45. Packaging materials for food products are regulated by the ____.
- a. FDA
 - b. FSIS
 - c. EPA
 - d. CDC
46. Prions from cattle are believed to be responsible for a rare disease called ____ in humans.
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 - b. Microorganisms in Food
 - c. The Microbiology of Safe Food
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48. _____ conditions are necessary for a foam to remain stable.
- a. Two
 - b. Three
 - c. Four
 - d. Five
49. _____ aid(s) in the extraction of oil from olives.
- a. Cellulase
 - b. Amyloglucosidase
 - c. Pectic enzymes
 - d. Catalase
50. Eggs labeled “free-range” means that the eggs were produced from chickens that were raised _____.
- a. inside houses without cages
 - b. inside houses with access to the outside

This exam is released without an answer key at the request of the committee. All questions are taken from the references as listed in the Food Science and Technology CDE handbook.

- c. by feeding organic feed
- d. without the use of antibiotics

1. During the milling process of brown rice, a by-product called “brokens” are produced. While “brokens” are used for a variety of things, it is mostly used for the production of _____.
 - a. beer
 - b. cereal
 - c. rice flour
 - d. fertilizer
2. A food scientist is analyzing multiple published research studies to determine which ingredient would provide the best functionality for a product. When the results of several individual studies are pooled to yield an overall conclusion, it is called _____.
 - a. coherent-analysis
 - b. a cumulative frequency distribution
 - c. meta-analysis
 - d. a correlation coefficient
3. Food products formulated to have a pH ≤ 4.6 will inhibit toxin production by _____.
 - a. *Staphylococcus aureus*
 - b. *Clostridium botulinum*
 - c. *Listeria monocytogenes*
 - d. *Salmonella*
4. Oils high in polyunsaturated fatty acids _____ than oils high in monounsaturated fatty acids.
 - a. will have lower melting points
 - b. will have more hydrogen atoms
 - c. are more dense
 - d. have more trans fatty acids
5. _____ is bright orange in color and found in foods from plant sources.
 - a. Retinol
 - b. Beta-carotene
 - c. Ergocaliciferol
 - d. Cobalamin

6. To keep chocolate from settling out of chocolate milk, _____ are added.
- antioxidants
 - foaming agents
 - gelling agents
 - stabilizers
7. A _____ is a dye, pigment or other substance, which is capable of imparting color when added or applied to a food.
- color additive
 - colorant
 - secondary direct food additive
 - processing aid
8. _____ contribute(s) to bitter flavors in tea and coffee.
- Caproic and caprylic fatty acid ethyl esters
 - Carotenoids
 - Trans 2-hexenal
 - Polyphenols
9. The GRAS list is continually under constant revision. FDA recommends Class 5 ingredients _____.
- be considered safe at present and anticipated levels of use
 - be safe at current use levels but evaluate if an increase in use could be hazardous
 - have restricted use and require more research
 - be removed from the GRAS list
10. High levels of mercury in a fish product is considered a _____ hazard.
- biological
 - physical
 - chemical
 - radiological
11. It is the responsibility of the _____ to ensure that all ingredients used are of food-grade purity and comply with specifications and limitations in all applicable authorizations.
- FDA
 - USDA FSIS
 - manufacturer of any food
 - FFDCA

12. Which is a true statement?
- A food with a higher fat content will freeze slower than a similar food with a lower fat content
 - Increase airflow in a freezer decreases freezing rate of food
 - The thinner a product is, the longer it will take to freeze in the center
 - Water conducts heat away from food slower than fat
13. An iridescent look on the surface of slices meat means ____.
- the quality has declined in the product
 - there are pigments in meat compounds causing iridescence when exposed to heat and processing
 - there is a safety concern and the meat should not be consumed
 - oil has been spread on the meat surface
14. A ____ like compound made of short- and long-chain acid triglyceride molecules is known by the acronym SALATRIM.
- protein
 - fat
 - starch
 - sweetener
15. Microbes that require high salt concentrations to function are called _____ and are used to make bean cakes in Asia.
- halophilic
 - psychrotrophic
 - thermophilic
 - mesophilic
16. Gluten is a protein made up of ____ that provides texture to bread.
- glutenin and gliadin
 - globulin and albumin
 - glutenin and globulin
 - gliadin and albumin
17. When analyzing product texture, _____ refers to how well one part of a food slides past another without breaking.
- firmness
 - brittleness
 - graininess
 - chewiness

18. The complete destruction of all microbes in food processing is completed through _____.
- blanching
 - pasteurization
 - sterilization
 - commercial sterilization
19. The temperature range in which most bacteria can grow, also known as the danger zone, is defined by the FDA as _____.
- 70°F-120°F
 - 85°F-115°F
 - 55°F-125°F
 - 40°F-140°F
20. A food processor is using water as part of a product formulation. GMPs require that this water be suitable or safe for drinking. This is also known as _____ water.
- sanitary
 - palatable
 - comestible
 - potable
21. Food scientists recently developed a MRE pizza having at least a three-year shelf life for the military. What does MRE mean?
- military ready to eat
 - meal ready to eat
 - meal real time eating
 - military ready to export
22. In the baking industry, proteases _____ gluten, enabling dough to rise faster.
- conjugate
 - agglomerate
 - bind
 - hydrolyze
23. The process of piercing meat with needles or sharp blades to break up muscle fibers is called _____.
- grinding
 - mechanical tenderization
 - emulsification
 - tumbling

24. Ground beef turns from a bright cherry red color to brown or _____ due to prolonged exposure to oxygen.
- myoglobin
 - deoxymyoglobin
 - oxymyoglobin
 - metmyoglobin
25. Which of the following sugars is not an example of a monosaccharide?
- galactose
 - fructose
 - maltose
 - glucose
26. Milk chocolate must contain at least _____ cocoa liquor.
- 10%
 - 20%
 - 35%
 - 45%
27. Which of the following is an example of a non-newtonian fluid?
- water
 - olive oil
 - corn starch suspension
 - vinegar
28. To carry out certain provisions of the _____, food facilities that manufacture, process, pack, or hold food are required to be registered.
- FDA
 - FSMA
 - Bioterrorism Act
 - Food, Drug, and Cosmetic Act
29. The functionality of carrageenan in a gummy bear is to provide _____.
- flavor
 - texture
 - color
 - antimicrobial activity

30. _____ are poisonous substances produced by certain molds found primarily on grain and nut crops, but may also be on celery, grape juice, and apples.
- Scrombrotoxins
 - Ipomeamarones
 - Mycotoxins**
 - Ciguatera toxins
31. _____ are (is) commonly used in soft drinks to stop the growth of yeast and bacteria.
- Sulfites
 - Humectants
 - Benzoic acid**
 - Calcium propionate
32. A small amount of gelatin may be added to beer and processed apple juice to complex with _____ that can cloud these beverages; the complex is then filtered out.
- terpenes
 - isocyanates
 - saponins
 - tannins**
33. The reaction between proteins and carbohydrates that causes food to brown is called _____.
- the Maillard reaction**
 - carmelization
 - crystallization
 - proteolysis
34. Foodborne illness may occur if a food plant employee is a carrier of _____, a predominant bacterial species normally present on the skin.
- E. coli* O157:H7
 - Salmonella* sp.
 - Staphylococcus aureus***
 - Campylobacter jejuni*
35. When a company sanitizes equipment or a processing area, they are _____.
- physically removing soil from the surface
 - treating with heat or chemicals to reduce the number of microbes present**
 - implementing a dry pick up of debris
 - treating so the equipment and processing area are free from all living microbes

36. A company is formulating a new food product labeled as low fat. This means _____.
- the amount of fat is nutritionally trivial
 - it contains 3 g of fat or less per serving or 100 g of food
 - it has no more than 25% of the fat of a comparable food
 - it has less than 0.5 g of fat per serving
37. Which of the following is not a true statement?
- Naturally occurring sugars have a different caloric content than commercially produced sugars
 - Table sugar (white granulated sugar) is primarily produced from sugar cane and sugar beets
 - Lactose only occurs in milk
 - Fructose is the sweetest of naturally occurring sugars
38. Food product dating is _____.
- required for all food products
 - required for all meat products
 - required for all infant formulas
 - required for all products that are consumed, regardless of product type
39. Which of the following is not a true statement?
- Syneresis is leakage of water from a gel
 - Syneresis can toughen food
 - Syneresis can dry food
 - Syneresis is due to ice sublimation
40. Prior to 1991, _____ solder was commonly used to seal the seams on tin cans for food.
- steel
 - tin
 - aluminum
 - lead
41. The measure of water vapor in air, also known as _____, affects the storage shelf life of perishable foods.
- humidity
 - dew point
 - water activity
 - partial pressure

42. Which of these sugars does not form crystals allowing it to be blown and spun into sugar creations?
- a. Isomalt
 - b. Honey
 - c. Sorghum syrup
 - d. Xylitol
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 - c. by feeding organic feed
 - d. without the use of antibiotics



Food Science Career Development Event

Created: Feb-20

GENERAL KNOWLEDGE EXAM

Choose the correct answer and place it in Exam A of the Universal E scantron provided.

1. Cell cultured food products derived from cell lines of livestock and poultry are a new technology under development. Who will provide regulatory oversight for these novel human food products?
 - a. Only FDA
 - b. Only USDA FSIS
 - c. Joint oversight by FDA and USDA FSIS
 - d. No regulatory oversight has been determined at this time
2. As a banana ripens from green to yellow, it _____.
 - a. becomes sweeter due to an increase in its sugar content
 - b. does not change in bitterness
 - c. becomes more bitter
 - d. has no change in sweetness or sugar content
3. You have been asked to develop a new salad dressing. One of the specifications is to use an oil with a low saturated fat content. Given the choices below, which would have the lowest saturated fat content?
 - a. Coconut oil
 - b. Peanut oil
 - c. Canola oil
 - d. Olive oil
4. *Aspergillus* produces _____ that are used to clarify fruit juices.
 - a. amylases
 - b. cellulases
 - c. sucrases
 - d. invertases
5. _____ is the creation and maintenance of hygienic and healthful conditions.
 - a. Cleanliness
 - b. Sterilization
 - c. Sanitation
 - d. Disinfection

6. A chocolate truffle and mint ice cream sandwich has the following ingredient statement: *Chocolate truffle cookies (bittersweet chocolate [cocoa mass, sugar, cocoa butter, vanilla flavoring], butter [cream, natural flavoring], cane sugar, eggs, dark chocolate chips [cocoa liquor, sugar, cocoa butter, pure vanilla], unbleached flour [enriched wheat flour, niacin, reduced iron, thiamine mononitrate, riboflavin, folic acid], cocoa powder, Madagascar bourbon vanilla extract [water, alcohol, sugar, vanilla bean extractives], sea salt, baking soda), mint ice cream (milk, cream, cane sugar, tapioca syrup, mint, peppermint essential oil, tapioca starch)*. What allergens must be declared in this product?
- chocolate, milk, wheat
 - wheat, tapioca, milk
 - chocolate, eggs, wheat
 - milk, eggs, wheat
7. Fresh olives picked from a tree contain a _____ compound requiring them to be cured to make them palatable.
- sour
 - sweet
 - bitter
 - salty
8. The food industry uses four levels of heat preservation. Which of the following provides complete destruction of all microorganisms?
- Commercial sterilization
 - Pasteurization
 - Sterilization
 - Blanching
9. The red color of an apple is important for consumer acceptance of red delicious apples so companies that produces apples use a _____ to measure redness, blueness, and yellowness of each apple lot.
- refractometer
 - colorimeter
 - gas chromatograph
 - torrymeter
10. _____ is a common method used to test the viscosity of mixtures such as ketchup.
- The line-spread test
 - TBARS
 - Spectrophotometry
 - Gel electrophoresis

11. The space left in a container after adding food and sealing the top is called _____.
- voided space
 - headspace
 - open space
 - dead space
12. Food contact packaging materials are regulated by the _____.
- FDA
 - USDA
 - EPA
 - Federal Trade Commission
13. Food is placed on heated trays or shelves called _____ when vacuum drying procedures are used.
- rollers
 - platens
 - platforms
 - racks
14. _____ is a compound commonly used to make no-salt seasonings because it contributes a salty flavor to foods.
- Lithium chloride
 - Selenium chloride
 - Potassium chloride
 - Manganese chloride
15. _____ is National Food Safety Education month.
- February
 - May
 - July
 - September
16. To extend the shelf life of chips and help prevent crushing during distribution, _____ is added to the bag during packaging.
- oxygen
 - nitrogen
 - hydrogen
 - helium

17. As a popcorn kernel is heated, water within the kernel boils forming steam. The _____ to explode.
- higher temperature of the steam causes the kernel
 - starches within the kernel cause the kernel
 - volume of the steam is greater than water increasing pressure within the kernel causing it
 - proteins within the kernel causes the kernel
18. _____ is used to dye gourmet pastas black.
- Ferrous gluconate
 - Squid ink
 - Saffron
 - Aniline
19. Concentrates in the form of soups, syrups and juices are produced by many companies. Which of the following statements is NOT true about concentrates?
- They are more economical to ship due to water reduction in product
 - Proteins denaturation due to concentrated salts and minerals can cause the concentrate to slowly gel over time during storage
 - Concentrates have cooked flavors and color changes
 - Concentrates do not form gritty or sandy textures in sugary foods due to less formation of sugar crystals
20. _____ are unstable flavor compounds formed when plant tissues are disrupted such as in chopped onions and garlic.
- Tannins
 - Allyl sulfides
 - Terpenes
 - Saponins
21. The addition of sodium phosphate into a meat product to retain moisture and protect flavor is an example of a(n) _____.
- indirect food additive
 - color additive
 - direct food additive
 - flavor additive

22. Cheese curds form when globular casein molecules untangle, allowing _____ to bind with milkfat and one another.
- nonpolar side chains
 - polar side chains
 - hydrophilic proteins
 - water attracting molecules
23. Ingestion of _____ and causing illness is considered a food infection.
- Bacillus cereus* (emetic-type)
 - Salmonella*
 - Clostridium botulinum*
 - Staphylococcus aureus*
24. When a solute such as salt or sugar is added to water, the _____.
- freezing point increases and the boiling point decreases
 - freezing point and boiling point increases
 - freezing point decreases and the boiling point increases
 - freezing point and boiling point decreases
25. A food scientist working on product development is testing a new formulation. Before measuring restricted ingredients in the pilot lab, the scientist needs to _____ the weighing scale using a standard mass.
- calibrate
 - level
 - regulate
 - quantify
26. A poultry company plans on selling fresh poultry. According to USDA FSIS, whole poultry and cuts can never be below _____ to be labeled as “fresh”.
- 0.6°C
 - 0°C
 - 3.3°C
 - 17.8°C
27. Freezing _____ enzymatic activity in a food product.
- slows
 - stops
 - deactivates
 - has no effect on

28. Which of the following sugars is considered to be sweeter than sucrose?
- Glucose
 - Sorbitol
 - Maltose
 - Fructose
29. Eggs marketed as “cage free eggs” are from chickens raised _____.
- in pens or cages
 - inside poultry houses without cages
 - inside poultry houses with access to the outside
 - with organic feed
30. The chemical leavening agent baking soda works because it contains ____.
- a strong acid
 - a strong base
 - carbon dioxide
 - sodium chloride
31. Manufacturers who use _____ (a source of phenylalanine) as a nonnutritive sweetener must include a warning label to inform consumers having a rare hereditary disease known as phenylketonuria.
- Aspartame
 - Acesulfame potassium
 - Stevioside
 - Sucralose
32. In the context of food allergens, _____ occurs when a residue or trace amount of an allergenic food become incorporated into another food not intended to contain it according to the FDA.
- infection
 - cross-contact
 - tainting
 - tampering
33. One important advantage to using glass as food packaging material is that it is _____.
- very strong and resilient
 - economical to ship
 - chemically inert
 - protective of food color stability

34. The acronym IPM is used by the food industry to mean _____ as part of a cleaning and sanitation program.
- integrated pest management
 - intelligent power management
 - interior points method
 - industrial preparedness measures
35. Lecithin is commonly added to hot cocoa mix to _____.
- improve the shelf life of the mix
 - serve as emulsifier when water is added to cocoa
 - maintain the color stability of the mix
 - maintain the flavor stability of the mix
36. Canned tuna in oil takes longer to process than canned tuna in water. What is the reasoning behind this?
- Fat is a better conductor of heat than water
 - Water has no influence on conduction in this process
 - Water is a better conductor of heat than fat
 - Fat has no influence on conduction in this process
37. During freezing of ice cream, the mix is aerated by revolving blades in the freezer to _____.
- prevent overrun in the product
 - incorporate large air cells to make the ice cream texture smoother
 - break down milk fat into smaller particles so the ice cream is creamy
 - incorporate small air cells to prevent ice cream from becoming a solid mass of frozen ingredients
38. During the production of wine, yeast is separated from the wine in a step called _____.
- maceration
 - centrifugation
 - tanking
 - racking
39. When wheat is processed into flour, a loss of some nutrients occurs. To counteract this, companies are required to enrich flour with which of the following nutrients?
- Niacin, thiamin, riboflavin, folic acid and iron
 - Niacin, thiamin, riboflavin and iron
 - Niacin, thiamin, riboflavin and folic acid
 - Niacin, thiamin and folic acid

40. A safe handling label must be present on all packages of meat that are sold _____.
- fully cooked and ready to reheat
 - not ready to eat
 - ready to eat
 - fully cooked and ready to reconstitute
41. Lean beef has a _____ than asparagus so less energy is required to reduce the temperature of beef than asparagus.
- higher specific heat
 - higher dew point
 - lower specific heat
 - lower dew point
42. To produce decaffeinated coffee, green coffee beans are soaked in water producing a solution saturated with caffeine and flavor compounds. The solution is passed through _____ to remove the caffeine.
- a carbon filter
 - a paper filter
 - an infrared filter
 - a UV filter
43. You are securing olive oil for a product formulation and need to know where the ingredient is produced. The country that produces the most olive oil is _____.
- Greece
 - Italy
 - Spain
 - Tunisia
44. Benzene in water is considered _____ hazard.
- a biological
 - a physical
 - a chemical
 - not to be a
45. Which of the following components is required to be displayed on the principal display panel?
- Ingredient statement
 - Net quantity or amount
 - Company name and address
 - Major food allergens

46. Clostridium botulinum spores can germinate and grow at a _____.
a. pH of ≤ 4.6 and in an aerobic environment
b. pH of ≥ 4.6 and in an anaerobic environment
c. pH of ≤ 4.6 and in an anaerobic environment
d. pH of ≥ 4.6 and in an aerobic environment
47. FDA is requiring food companies to update Nutrition Facts labels to reflect updated scientific findings. New labels must _____.
a. include Vitamin E and Magnesium while Calcium and Iron are no longer required but may be listed voluntarily
b. include Vitamin D and Potassium while Vitamins A and C are no longer required but may be listed voluntarily
c. include Vitamin K and Selenium while Vitamin A and Calcium are no longer required but may be listed voluntarily
d. include Vitamin B12 and Zinc while Vitamin C and Iron are no longer required but may be listed voluntarily
48. During thermal processing, the last point in a can or mass of food to reach the desired temperature is called the _____.
a. hot point
b. flash point
c. cold point
d. finish point
49. Your company moved its bread baking production facility from Minneapolis, MN (altitude 830 feet) to Denver, CO (altitude 5,280 feet). Which of the following adjustments should the company make to their formulation/process so they continue to produce the same quality product in their new location? Assume the company is making only one adjustment if one is made.
a. Use less flour in the formulation
b. Use more water in the formulation
c. Increase the amount of yeast in the formulation
d. No change is needed
50. According to USDA FSIS, which of the following would not be considered a ratite?
a. Rhea
b. Squab
c. Ostrich
d. Emu



Food Science Career Development Event

Created: Feb-22

GENERAL KNOWLEDGE EXAM— 150 POINTS

Question	Answer	Points	Standard	Standard	Standard
1.	c	3			
2.	a	3			
3.	c	3			
4.	b	3			
5.	c	3			
6.	d	3			
7.	c	3			
8.	c	3			
9.	b	3			
10.	a	3			
11.	b	3			
12.	a	3			
13.	b	3			
14.	c	3			
15.	d	3			
16.	b	3			
17.	c	3			
18.	b	3			
19.	d	3			
20.	b	3			
21.	c	3			
22.	a	3			
23.	b	3			
24.	c	3			

Question	Answer	Points	Standard	Standard	Standard
25.	a	3			
26.	c	3			
27.	a	3			
28.	d	3			
29.	b	3			
30.	b	3			
31.	a	3			
32.	b	3			
33.	c	3			
34.	a	3			
35.	b	3			
36.	c	3			
37.	d	3			
38.	d	3			
39.	a	3			
40.	b	3			
41.	c	3			
42.	a	3			
43.	c	3			
44.	c	3			
45.	b	3			
46.	b	3			
47.	b	3			
48.	c	3			
49.	b	3			
50.	b	3			

Food Science Career Development Event
2021 General Knowledge Exam

1. Humans “burn” food for energy. Which of the following can humans obtain energy from consuming?
 - a. Proteins
 - b. Carbohydrates
 - c. Lipids
 - d. All of the above

2. According to the United States Food and Drug Administration (FDA), which of the following is true regarding COVID-19 and the safety of our food supply?
 - a. COVID-19 is now recognized as a foodborne illness
 - b. There is currently no evidence that food or food packaging have been associated with COVID-19 transmission
 - c. Foodborne exposure to SARS-CoV-2 (the virus that causes COVID-19) is a route of transmission for the COVID-19 respiratory illness
 - d. The FDA has not released any information regarding COVID-19

3. Product quality and shelf life can be the result of an effective sanitation program because _____.
 - a. a reduction in the microbial population can occur.
 - b. antimicrobials are directly added to the food product.
 - c. probiotics are used to sanitize equipment.
 - d. all surfaces are irradiated during the sanitation process.

4. _____ is necessary for many enzymes to function and for proper immune system function, as well as wound healing.
 - a. Iodine
 - b. Fluoride
 - c. Iron
 - d. Zinc

5. Acids develop as fruits mature. These acids _____.
 - a. increase sugar content only
 - b. increase sugar content and improve juice quality only
 - c. increase sugar content, improve juice quality, and affect color development
 - d. increase sugar content, improve juice quality, affect color development, and always increase the pH of fruit

6. The _____ the freezing process is, the _____ the ice crystals become.
 - a. slower, smaller
 - b. slower, larger

- c. faster, smaller
 - d. faster, larger
7. Meat and poultry provide nourishment to microorganisms that lead to _____.
- a. spoilage
 - b. discoloration
 - c. foodborne illness
 - d. all of the above
8. When a food contains all the indispensable amino acids, it is called a/an _____.
- a. complete food
 - b. incomplete food
 - c. complete protein
 - d. incomplete protein
9. _____ is the reactions, both chemical and physical, that take place within cells.
- a. Digestion
 - b. Absorption
 - c. Osmosis
 - d. Metabolism
10. The human tongue can sense sour, sweet, salty, and bitter because it is covered in hundreds of _____.
- a. papillae
 - b. flavor sensors
 - c. pores
 - d. microorganisms
11. _____ is the international food standards-setting body that protects consumer health and fair food trade practices by establishing voluntary international food standards, codes of practice, and guidelines.
- a. Codex Alimentarius
 - b. United States Department of Agriculture
 - c. United States Food and Drug Administration
 - d. Hazard Analysis and Critical Control Points (HACCP)
12. Using modern molecular biology to alter genetic material by removing, adding, or rearranging genes is called _____.
- a. whole genome sequencing
 - b. genetic engineering
 - c. nanotechnology
 - d. none of these
13. The _____ in red wine are associated with a reduction in heart disease.

- a. indoles
 - b. polyphenols
 - c. carotenes
 - d. allyl sulfides
14. GRAS is an acronym for _____.
- a. Generally Recognized As Safe
 - b. Generally Recognized Antimicrobial Substance
 - c. Genetic Removal of Antimicrobial Substance
 - d. Genetic Removal of Amylopectin Starch
15. A food intoxication is a foodborne illness that is caused by _____.
- a. ethanol in a food product
 - b. toxins from a sanitizing agent used during sanitation
 - c. a toxin released from microbes
 - d. none of these
16. According to the USDA, a product labeled as “Organic” means the product contains _____.
- a. 100% organic ingredients
 - b. a minimum of 95% organic ingredients
 - c. at least 70% organic ingredients
 - d. specific organic ingredients
17. When making pastries, the role of fat is to _____.
- a. add elasticity to the dough
 - b. provide shape to the final product
 - c. hold water in the dough
 - d. provide texture to the final product
18. GMPs is an acronym for _____.
- a. Good Manufacturing Procedures
 - b. Good Manufacturing Practices
 - c. Great Manufacturing Procedures
 - d. Great Manufacturing Practices
19. On the new Nutrition Facts label, which of the following are included under “Added Sugars”?
- a. Naturally-occurring sugars
 - b. Sugars added during processing
 - c. Naturally-occurring sugars and sugars added during processing
 - d. None of these
20. The _____ is the material that is being dissolved in a homogenous mixture.

- a. solute
 - b. solvent
 - c. solution
 - d. substance
21. During refrigeration, the _____ of the air can be changed to stop respiration and extend the shelf life of a food.
- a. circulation
 - b. filtration
 - c. gas content
 - d. pressure
22. Which of the following is the definition for food defense?
- a. Access to nutritious, safe food
 - b. Protecting food products from unintentional adulteration by chemical, biological, radioactive, or physical contaminants
 - c. Protecting food products from intentional adulteration by chemical, biological, radioactive, or physical contaminants
 - d. All of the above
23. _____ is the fastest dehydration method.
- a. Spray drying
 - b. Vacuum drying
 - c. Freeze-drying
 - d. Sun drying
24. The common name for saccharide is _____.
- a. protein
 - b. fat
 - c. sodium
 - d. sugar
25. Brewing temperature is important when brewing coffee or tea. What happens when the brewing temperature is too high?
- a. Too few of flavor compounds are released.
 - b. Bitter polyphenols are released.
 - c. A sweet off flavor occurs because volatile fatty acids are released.
 - d. None of these
26. A conventional food that has certain food components and/or essential nutrients added for a specific physiological purpose is referred to as a _____.
- a. medicinal food
 - b. supplement
 - c. genetically modified food

d. functional food

27. _____ is the only reliable method for determining when a food has reached an internal temperature that is adequate for killing foodborne pathogens.
- Product color
 - Product texture
 - A food thermometer
 - Oven temperature
28. What type of claim is “Calcium builds strong bones” when used on a food label?
- Nutrient content claim
 - Health claim
 - Qualified health claim
 - Structure/function claim
29. A finished food is a _____ food product.
- raw
 - manufactured
 - ready to eat
 - discontinued
30. A molecule that has a polar end and a nonpolar end, and is used as a stabilizing factor to maintain dispersion of one immiscible liquid in another, is called a/an _____.
- emulsifier
 - pH control agent
 - anticaking agent
 - desiccant
31. Which of the following is used to convert milk into cheese?
- Enzymes
 - Acids
 - Salts
 - Sugars
32. Which of the following is true regarding acrylamides?
- By-product of cooking, frying, and baking
 - Formed by combination of sugars and proteins that undergo chemical changes at high temperatures
 - Toasted or browned foods contain the highest levels
 - All of the above
33. Flavor is an effect caused by the combination of _____.
- Taste and texture
 - Taste and aroma

- c. Texture and aroma
 - d. Taste and appearance
34. The _____ is primarily responsible for maintaining integrity of a food product from the time when it leaves the factory to when it is consumed by a consumer.
- a. pH
 - b. grocery store
 - c. food package
 - d. truck driver
35. Effective January 1, 2023, what food will be added as the 9th allergen?
- a. Soybeans
 - b. Sesame
 - c. Shellfish
 - d. Sugar
36. In people with _____, foods that contain gluten trigger an immune response that can damage the small intestine lining.
- a. Celiac disease
 - b. stomach cancer
 - c. foodborne illness
 - d. All of these
37. Food handlers can spread bacteria and cause illness through their _____.
- a. hands
 - b. breath
 - c. hair
 - d. all of these
38. Which of the following is indigestible by humans?
- a. Sucrose
 - b. Fructose
 - c. Glucose
 - d. Cellulose
39. Why does chocolate “melt in your mouth”?
- a. The proteins in the chocolate denature at body temperature.
 - b. The lipids in chocolate have a melting point that is close to body temperature.
 - c. The sugars in chocolate caramelize at body temperature.
 - d. None of these.
40. _____ holds oxygen in muscle tissue and gives meat its color.
- a. Myoglobin
 - b. Glycogen

- c. Lipids
 - d. Collagen
41. _____ is a nonnutritive sweetener that is made when chlorine atoms are added to sugar.
- a. Aspartame
 - b. Acesulfame Potassium
 - c. Neotame
 - d. Sucralose
42. When making semidry and dry sausages, _____ are added to ferment the meat.
- a. spices
 - b. salts
 - c. lactic acid bacteria
 - d. enzymes
43. In order to multiply, *Clostridium botulinum* requires an environment with _____.
- a. a pH of 4.6 or greater that is free of oxygen
 - b. a pH below 4.6 that is free of oxygen
 - c. a pH of 4.6 or greater that contains oxygen
 - d. a pH below 4.6 that contains oxygen
44. When developing a new food product, it is important for food scientists to know _____.
- a. target consumer group
 - b. the need or problem
 - c. current trends
 - d. all of these
45. What is the first principle of HACCP?
- a. Conduct a hazard analysis
 - b. Identify critical control points (CCPs)
 - c. Establish critical limits for CCPs
 - d. Establish effective record-keeping procedures
46. How is the calorie density of a food calculated?
- a. Total calories of a food divided by total weight of the food
 - b. Total calories of a food divided by total weight of a meal
 - c. Total weight of a food divided by the total calories of the food
 - d. Total weight of a food divided by total weight of a meal
47. _____ is responsible for the red color that is typical of tomatoes.

- a. Beta-carotene
- b. Lycopene
- c. Lutein
- d. Alpha-carotene

48. Prebiotics are non-digestible components of food that _____.

- a. can interfere with proper digestion
- b. support the growth of foodborne pathogens and lead to foodborne illness
- c. often lead to diarrhea and symptoms of indigestion
- d. encourage beneficial microorganism growth in the intestine

49. Gelatin is a/an _____ that is often used to thicken ice cream and other desserts.

- a. starch
- b. lipid
- c. emulsifier
- d. protein

50. Refrigerated leftovers should be used within _____.

- a. 1-2 days
- b. 3-4 days
- c. 5-7 days
- d. 7-10 days

Food Science Career Development Event
2022 General Knowledge Exam

1. Poor sanitation can cause _____, which is a common problem that can lead to _____.
 - a. food weight to increase, more expensive products
 - b. food spoilage, off-odors and flavors
 - c. employee termination, labor shortages
 - d. None of the choices properly complete the sentence

2. What is the United States Department of Agriculture (USDA) agency that is responsible for ensuring the safety of the nation's meat, poultry, and processed egg products?
 - a. Food Inspection Service
 - b. Food Safety Service
 - c. Meat, Poultry, and Egg Products Inspection Service
 - d. Food Safety Inspection Service

3. Which of the following represents the temperature "Danger Zone"?
 - a. 30°F to 130°F
 - b. 35°F to 135°F
 - c. 40°F to 140°F
 - d. 45°F to 145°F

4. The term "organic" is well-defined and regulated by _____.
 - a. USDA's National Organic Program
 - b. FDA's National Organic Program
 - c. The National Organic Food Program of the United States of America
 - d. Organic Foods of America

5. Vitamin C is also known as _____.
 - a. acetic acid
 - b. ascorbic acid
 - c. citric acid
 - d. phosphoric acid

6. In the food industry, recipes are called _____.
 - a. recipes
 - b. formulations
 - c. protocols
 - d. preparations

7. Which of the following can impact a human's ability to detect flavors?
 - a. Age
 - b. Gender

- c. Health
 - d. All of the above
8. In 2002, *savory* was officially recognized as the fifth taste by the scientific community. What is another term for *savory*?
- a. Tasty
 - b. Beefy
 - c. Umami
 - d. Astringency
9. On August 1, 2022, the USDA announced that it will be declaring *Salmonella* an adulterant in which of the following products?
- a. Raw pork products
 - b. Breaded and stuffed raw chicken products
 - c. All raw ground meat and poultry products
 - d. Raw poultry and turkey products
10. When bread is toasted, and browning occurs, this an example of which type of change?
- a. Physical change
 - b. Phase change
 - c. Physical and phase change
 - d. Chemical change
11. In terms of addressing bioterrorism in the food industry, what are the “3 Ps” of protection?
- a. Personnel, product, politics
 - b. Product, property, politics
 - c. Personnel, product, property
 - d. Personnel, property, processing
12. Which of the following refers to the stationary phase of microbial growth?
- a. Period of adjustment after contamination occurs
 - b. Period of exponential growth
 - c. Environmental factors are limiting and growth slows
 - d. Death at an exponential rate
13. The food industry uses sublimation to _____ and _____ foods at the same time.
- a. freeze, dry
 - b. freeze, liquefy
 - c. dry, liquefy
 - d. cook, irradiate
14. Structural changes in ingredients can be the indirect result of _____.

- a. heating
 - b. processing
 - c. storage
 - d. All of the above
15. What happens when gluten protein chains come into contact with water?
- a. They do not react or move
 - b. Their shape changes by breaking into smaller chains or forming longer chains
 - c. Water acts as a protease and degrades gluten proteins
 - d. None of the above
16. What is the water activity of cookies, crackers, and bread crusts?
- a. 0.50
 - b. 0.40
 - c. 0.30
 - d. 0.20
17. What is lactose intolerance?
- a. Overproduction of lactose in the small intestine
 - b. Overproduction of lactase in the small intestine
 - c. Inability to produce lactose
 - d. Inability to produce lactase
18. The flakiness and tenderness of a pastry or pie shell is dependent on _____ and _____.
- a. type of fat used, temperature at which fat is incorporated into flour
 - b. type of sugar used, temperature at which sugar is incorporated into flour
 - c. amount of air introduced, how much dissolved oxygen is present
 - d. cooking temperature, how quickly the product was cooled
19. Which of the following sweet alcohols is NOT used as a texturizer?
- a. Glycerol
 - b. Mannitol
 - c. Sorbitol
 - d. Xylitol
20. Retrogradation occurs because _____.
- a. a gel wasn't properly cooled
 - b. too much starch was added to a product
 - c. starch granules try to return to their pre-cooking structure
 - d. all of the above
21. What is a psychosomatic food illness?
- a. All foodborne illnesses

- b. Illness caused by the mind because of the sight of a foreign object or after watching another human get sick
 - c. Faking foodborne illness to avoid school or work
 - d. None of the above
22. Which pathogen caused a large outbreak in powdered infant formula in early 2022?
- a. *Salmonella* Typhimurium
 - b. *Escherichia coli* O157:H7
 - c. *Listeria monocytogenes*
 - d. *Cronobacter sakazakii*
23. When carbohydrates are not present as an energy source, the body goes into _____, which is a process of producing _____.
- a. ketosis, ketone bodies
 - b. glycolysis, glycogen
 - c. stress, cortisol
 - d. proteolysis, proteases
24. Which of the following is a lipid?
- a. Shortening
 - b. Sterols
 - c. Cholesterols
 - d. All of the above
25. Which of the following describes a foodborne intoxication?
- a. A disease-causing microorganism is ingested and causes illness
 - b. A chemical used in a food processing plant accidentally contaminates a food
 - c. A microorganism grows in a food, produces a toxin, and the toxin causes illness
 - d. The deliberate contamination of a food product with a toxic chemical
26. Which of the following is NOT an example of a globular protein?
- a. Caseins in milk
 - b. Albumin in egg white
 - c. Whey in milk
 - d. All of these are globular proteins
27. Pork is lighter in color than beef because it contains less _____.
- a. blood
 - b. myoglobin
 - c. fat
 - d. glycogen
28. A food package is important for which of the following?
- a. Protection of the product

- b. Containing the product
- c. Communicating information to the consumer
- d. All of the above

29. When making popcorn, what causes the kernels to pop?

- a. Heating degrades the proteins in the pericarp (shell) of the kernel, causing the kernel to pop
- b. Heating breaks down starches in the kernel, causing them to expand, and the kernel to pop
- c. Heating causes water and starch to combine in the kernel, causing the kernel to expand and pop
- d. Heating causes water in the kernel to boil, resulting in steam, and the pressure caused by the steam pops the kernel

30. What is rennin?

- a. Enzyme that breaks down fat during lipolysis
- b. Enzyme that breaks down proteins in milk
- c. Enzyme that breaks down lactose
- d. Enzyme that breaks down maltose

31. Enzymatic browning is a chemical reaction that results in the production of brown pigments called _____.

- a. Acrylamides
- b. Oxidases
- c. Melanins
- d. Bromelains

32. What are the fat-soluble vitamins?

- a. A, D, E, K
- b. A, C, E, K
- c. C, D, E, K
- d. A, C, D, E

33. Iodine is important for thyroxine production, which is produced by the thyroid. _____ is one of the best sources of iodine.

- a. Beef
- b. Chicken
- c. Pork
- d. Seafood

34. Why of the following are NOT high in polyphenols?

- a. White grapes
- b. Red grapes
- c. Purple grapes

- d. Berries
35. Food allergies are mediated by _____ antibodies to proteins.
- a. IgA
 - b. IgE
 - c. IgG
 - d. IgM
36. Hygiene is important for people working in the food industry. People are known to harbor which of the following?
- a. Streptococci
 - b. Staphylococci
 - c. Intestinal microorganisms
 - d. All of the above
37. What does CIP stand for in the food industry?
- a. Cooking-in-Place
 - b. Cleaning-in-Place
 - c. Cooking-in-Progress
 - d. Cleaning-in-Progress
38. What does the acronym CRISPR stand for?
- a. Clustered Regularly Interspaced Palindromic Repeats
 - b. Clustered Routinely Interspaced Palindromic Repeats
 - c. Check Regularly Inside Production Refrigerators
 - d. Check Routinely Inside Production Refrigerators
39. In terms of protein content and unsaturated fatty acids, insects provide nutritional benefits that are comparable to meat. However, edible insects also provide a source of _____ and _____.
- a. Vitamin C, cellulose
 - b. Vitamin K, cellulose
 - c. Vitamin C, fiber
 - d. Vitamin K, fiber
40. Which of the following is NOT true regarding COVID-19 and our food supply?
- a. Food packaging is an important source of SARS-CoV-2 (the virus that causes COVID-19) transmission, so all food packages should be sanitized
 - b. There is no evidence that COVID-19 can be transmitted by food
 - c. Coronaviruses, such as SARS-CoV-2, are easily killed using appropriate disinfectants
 - d. All of these are true statements
41. Which of the following is caused by a prion?

- a. Salmonellosis
 - b. Rotavirus
 - c. Bovine spongiform encephalopathy
 - d. Hepatitis
42. Two Latin names are given to classify microbes. What is the genus and what is the species for *Escherichia coli*?
- a. Genus = *Escherichia*, species = *coli*
 - b. Genus = *coli*, species = *Escherichia*
 - c. Genus = bacteria, species = *Escherichia*
 - d. Genus = *Escherichia*, species = bacteria
43. What is the Delaney Clause?
- a. Bars the approval of any food known to cause illness in humans
 - b. Bars the approval of any food additive known to cause cancer in humans or animals
 - c. Bars the use of any sanitizer or disinfectant in the food industry if it is known to cause cancer in humans or animals
 - d. None of these describe the Delaney Clause
44. What does the term "Reduced Fat" mean when used as a food label nutrient claim?
- a. No more than 10% of the fat of the comparable food
 - b. No more than 15% of the fat of the comparable food
 - c. No more than 20% of the fat of the comparable food
 - d. No more than 25% of the fat of the comparable food
45. Why can't grapefruits and/or grapefruit juice be consumed with some medications?
- a. Some medications alter the tastebuds and make grapefruits taste like metal
 - b. The ingredients in some medications combine with the flavonoid naringin in grapefruits to make a toxic compound
 - c. The flavonoid naringin in grapefruits can decrease the effectiveness of some medications
 - d. All of these are true
46. Which of the following best describes a sanitizer?
- a. Agent that destroys/eliminates microbial life in all forms
 - b. Agent that kills vegetative bacteria and infectious fungi, but does not necessarily eliminate spores
 - c. Agent that removes soil and debris from a surface
 - d. Agent that decreases, but does not necessarily eliminate, microorganisms to a level deemed safe for public health
47. Caffeine consumption increases the excretion of _____.
- a. Calcium

- b. Calcium and magnesium
- c. Zinc
- d. Zinc and folic acid

48. What does the term aseptic mean?

- a. Free of pathogens
- b. Another term for sanitation
- c. Heating food to 165°F
- d. Another term for blanching

49. What does the term “Best If Used By” indicate on a food label?

- a. Refers to product safety and indicates products are not safe after the date
- b. Refers to product quality and safety, indicating the product will have poor quality and not be safe after the date
- c. Refers only to product quality and indicates the product may still be fine to eat after the date
- d. Tells the grocery store the last date that they can sell product before it must be destroyed

50. Which of the following types of required information must be found on the principal display panel of a food label?

- a. Ingredients
- b. Major food allergens
- c. Company name and address
- d. Name of food or statement of identity