1. Enzymes are important to the food industry for many reasons, and it is important to understand how certain conditions affect their activity. Which condition does not affect the activity of enzymes?
   a. pH
   b. temperature
   c. water
   d. density
2. Water that cannot be easily separated in food is called _____?
   a. free water
   b. bound water
   c. loose water
   d. a solvent
3. When using a scale, this procedure is used to find the mass of a substance, but not its container.
   a. Calibrating
   b. Taring
   c. Balancing
   d. None of the above
4. This is a potential defect in dehydration caused by temperatures that are too high. It results in a hard outer layer that traps moisture inside a product.
   a. Sulfuring
   b. Iridescence
   c. Case-hardening
   d. Blanching
5. The original form of this sweetener was not stable when heated. It is often used to sweeten soft drinks and was not used for baked goods or cooked products.
   a. Aspartame
   b. Sucralose
   c. Acesulfame potassium
   d. Sucrose
6. The wheat kernel is made of three parts. This portion is rich in fiber and contains many B-vitamins as well as iron.
   a. Germ
   b. Endosperm
   c. Bran
   d. Endospore
7. A(n) _____ is a substance made of two or more different elements chemically joined together.
   a. compound
   b. molecule
   c. atom
   d. mixture
8. Six essential nutrients are needed to keep the human body working well. This nutrient is often called the body's building block and aids in growth and healing after injuries.
   a. Minerals
   b. Vitamins
   c. Proteins
   d. Fats
9. A lipoprotein is a large, complex molecule of lipids and protein, and it carries lipids in the blood. A high level of this particular lipoprotein indicates an increased risk of heart disease.
   a. HDL
   b. LDL
   c. MDL
   d. LDH

10. Lactic-acid bacteria can be used in the production of all the following foods, except _____.
    a. dill pickles
    b. yogurt
    c. sauerkraut
    d. vinegar
11. Silicon dioxide is a common food additive that serves as a(n) _____?
    a. anticaking agent
    b. artificial sweetener
    c. emulsifier
    d. antioxidant
12. _____ is the distinctive quality that comes from a food's unique blend of appearance, taste, odor, feel, and sound.
    a. Umami
    b. Sense
    c. Flavor
    d. None of the above
13. Through this process, matter and energy transfer between organisms as food. This process is called _____?
    a. biotechnology
    b. food processing
    c. food evaluation
    d. the food chain
14. _____ is cultivating a variety of plants and animals. It involves less reliance on a few food sources.
    a. Biotechnology
    b. Biodiversity
    c. Ecology
    d. Non-diversity
15. _____ is a protein made by the body. It controls acid secretion.
    a. Hydrochloric Acid
    b. Mucus
    c. Bile
    d. Gastrin
16. _____ is energy used by a body at rest to maintain automatic, life-supporting processes.
    a. Voluntary activities
    b. Basal metabolism
    c. Metabolic rate
    d. Active Metabolism
17. While having almost no mass, this particle determines whether a chemical reaction takes place.
    a. Electron
    b. Proton
    c. Neutron
    d. Nucleon
18. A protein that contains all the essential amino acids in food is called a(n) _____ protein?
    a. incomplete
    b. high-quality
    c. complete
    d. essential
19. This symbol shows that a food has been irradiated. It appears either on the food label or on a sign nearby and is called _____.
    a. radon
    b. rodac
    c. kilogray
    d. radura

20. This system that was developed for NASA is utilized by FSIS to prevent foodborne hazards. This system is?
    a. PCHA
    b. HACCP
    c. USDA
    d. HCCPA
21. In this state of matter, molecules will speed up when heat energy is added.
    a. Solid
    b. Liquid
    c. Gas
    d. All of the above
22. _____ is how close a single measurement comes to the actual or true value of the quantity measured.
    a. Precision
    b. Accuracy
    c. Metric
    d. None of the above
23. A student is making whipping cream and wants to see how the temperature of the cream affects the finished product. The temperature of the cream is an example of a(n) _____ variable.
    a. dependent
    b. independent
    c. co-dependent
    d. both a and c
24. _____ are substances that help maintain the balance of hydrogen and hydroxide ions in a solution.
    a. Buffers
    b. Equivalence points
    c. Titrations
    d. Ratios
25. This vitamin found in dry peas and beans, liver, and fish, is necessary for every living organism. It is crucial for the release of energy from carbohydrates, fats, and protein and is needed to form DNA. This vitamin is _____?
    a. folacin
    b. biotin
    c. riboflavin
    d. niacin
26. Butter is an example of a(n) _____?
    a. water-in-oil emulsion
    b. oil-in-water emulsion
    c. colloidal dispersion
    d. both a and c
27. _____ is the addition of a nutrient to a food.
    a. Homogenization
    b. Pasteurization
    c. Fortification
    d. Lyophilization
28. This pathogen is commonly associated with canned foods. A can appearing puffy or bulging could be an indication that the can contains this harmful pathogen and should be discarded.
    a. *Clostridium perfringens*
    b. *Listeria monocytogenes*
    c. *Clostridium botulinum*
    d. *Yersinia pestis*
29. _____ is a sheet containing information about the safe use of a chemical and the steps to take in case of an accident.
    a. HACCP
    b. GMP
    c. SOP
    d. MSDS

30. Iron, copper, and zinc are all examples of _____ used in food. They are needed in small amounts for many metabolic functions such as transport of oxygen in blood cells, red blood cell synthesis, and nucleic acid synthesis.
    a. macrominerals
    b. trace minerals
    c. vitaminoids
    d. compounds
31. _____ is a heat treatment that destroys all pathogenic microorganisms in a food but does not destroy all spoilage microorganisms.
    a. Pasteurization
    b. Blanching
    c. Sterilization
    d. Convection
32. Which of the following is not an essential amino acid?
    a. Lysine
    b. Leucine
    c. Valine
    d. Phenylthaline
33. _____ is a measurement of the degree of availability of water in food.
    a. Moisture content
    b. Water activity
    c. Relative humidity
    d. Both a and b
34. *Listeria monocytogenes* is a pathogen that grows at refrigerator temperatures. Organisms that thrive at refrigerator temperatures are called _____.
    a. thermophiles
    b. mesophiles
    c. psychrophiles
    d. halophiles
35. _____ is the ability of a test substance to induce birth defects or the development of malformed fetuses.
    a. Teratogenicity
    b. Carcinogenicity
    c. Acute toxicity
    d. Tetratoxicogenicity
36. Antibiotics are an example of a _____ hazard in a food product.
    a. biological
    b. chemical
    c. physical
    d. aesthetic
37. The bright red color normally associated with fresh meat is called _____.
    a. Deoxymyoglobin
    b. Metmyoglobin
    c. Oxymyoglobin
    d. Myoglobin
38. Cherry Pepsi is an example of a _____. It is a product that is similar to the initial product but is a new flavor.
    a. Product adaptation
    b. Line extension
    c. Product improvement
    d. Product rollout

39. A focus group is a group usually composed of "target" customers who evaluate product ideas or concepts. Focus groups usually contain _____ people and a group leader.
    a. 5-8
    b. 9-13
    c. 10-12
    d. 12-16

40. _____ are foods that not only nourish us in the traditional sense but also provide some protective component that may help us to fight disease.
    a. Designer foods
    b. Superfoods
    c. Nutraceuticals
    d. Both a and b

41. It is estimated that ___ in___ Americans could get sick from food poisoning this year alone.
    a. 1 in 3
    b. 1 in 5
    c. 1 in 6
    d. 1 in 10

42. _____ are organisms that derive nourishment and protection from other living organisms known as hosts. *Toxoplasma gondii* is one such organism that causes many hospitalizations and deaths in the U.S.
    a. Viruses
    b. Parasites
    c. Toxins
    d. Bacteria

43. This foodborne pathogen is the second most common bacterial cause of diarrhea in the U.S. It is associated with raw and undercooked poultry and untreated water.
    a. *Listeria monocytogenes*
    b. *Campylobacter*
    c. *Norovirus*
    d. *E. coli* O157:H7

44. Symptoms of this foodborne illness include fever, nausea, and vomiting. It primarily affects pregnant women and their fetuses. This pathogen is _____.
    a. *Listeria monocytogenes*
    b. *Clostridium botulinum*
    c. *Salmonella*
    d. *Clostridium perfringens*

45. Hands should be washed for at least ___ seconds before handling food.
    a. 15 seconds
    b. 20 seconds
    c. 25 seconds
    d. 30 seconds

46. A safe way to defrost foods is:
    a. In the refrigerator
    b. In cold water
    c. In the microwave
    d. **All of the above**

47. A gram of fat contains _ calories.
    a. 5
    b. 7
    c. 9
    d. 11

48. _____ is the spoilage of lipids or lipid material through the chemical bonding of oxygen to unsaturated sites of fatty acids.
    a. Hydrogenation
    b. Antioxidation
    c. Oxidative rancidity
    d. Proteolytic deterioration

49. MSG is an example of a _____. It is an additive that has little or no flavor itself but assists or boosts the primary flavor of a food to which it is added.
    a. flavor enhancer
    b. flavoring agent
    c. sequestrant
    d. polyol

50. If a consumer were to find a bone in their canned chicken noodle soup, this would be a _____ hazard.
    a. biological
    b. chemical
    c. physical
    d. aesthetic