

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?
- Clustered Regularly Interspaced Palindromic Repeats
 - Clustered Routinely Interspaced Palindromic Repeats
 - Check Regularly Inside Production Refrigerators
 - 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 _____.
- Vitamin C, cellulose
 - Vitamin K, cellulose
 - Vitamin C, fiber
 - Vitamin K, fiber
40. Which of the following is NOT true regarding COVID-19 and our food supply?
- Food packaging is an important source of SARS-CoV-2 (the virus that causes COVID-19) transmission, so all food packages should be sanitized
 - There is no evidence that COVID-19 can be transmitted by food
 - Coronaviruses, such as SARS-CoV-2, are easily killed using appropriate disinfectants
 - All of these are true statements
41. Which of the following is caused by a prion?
- Salmonellosis
 - Rotavirus
 - Bovine spongiform encephalopathy
 - Hepatitis
42. Two Latin names are given to classify microbes. What is the genus and what is the species for *Escherichia coli*?
- Genus = *Escherichia*, species = *coli*
 - Genus = *coli*, species = *Escherichia*
 - Genus = *bacteria*, species = *Escherichia*
 - Genus = *Escherichia*, species = *bacteria*
43. What is the Delaney Clause?
- Bars the approval of any food known to cause illness in humans
 - Bars the approval of any food additive known to cause cancer in humans or animals
 - Bars the use of any sanitizer or disinfectant in the food industry if it is known to cause cancer in humans or animals
 - 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