

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
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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.
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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.
- a. Product color
 - b. Product texture
 - c. A food thermometer
 - d. Oven temperature
28. What type of claim is “Calcium builds strong bones” when used on a food label?
- a. Nutrient content claim
 - b. Health claim
 - c. Qualified health claim
 - d. Structure/function claim
29. A finished food is a _____ food product.
- a. raw
 - b. manufactured
 - c. ready to eat
 - d. 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 _____.
- a. emulsifier
 - b. pH control agent
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 - d. desiccant
31. Which of the following is used to convert milk into cheese?
- a. Enzymes
 - b. Acids
 - c. Salts
 - d. Sugars
32. Which of the following is true regarding acrylamides?
- a. By-product of cooking, frying, and baking
 - b. Formed by combination of sugars and proteins that undergo chemical changes at high temperatures
 - c. Toasted or browned foods contain the highest levels
 - d. All of the above
33. Flavor is an effect caused by the combination of _____.
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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
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35. Effective January 1, 2023, what food will be added as the 9th allergen?
- a. Soybeans
 - b. Sesame
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36. In people with _____, foods that contain gluten trigger an immune response that can damage the small intestine lining.
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37. Food handlers can spread bacteria and cause illness through their _____.
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41. _____ is a nonnutritive sweetener that is made when chlorine atoms are added to sugar.
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44. When developing a new food product, it is important for food scientists to know _____.
- a. target consumer group
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45. What is the first principle of HACCP?
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46. How is the calorie density of a food calculated?
- a. Total calories of a food divided by total weight of the food
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47. _____ is responsible for the red color that is typical of tomatoes.

- a. Beta-carotene
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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
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- d. 7-10 days

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