

**2014 FFA FOOD SCIENCE AND TECHNOLOGY
CAREER DEVELOPMENT EVENT
WRITTEN EXAM**

Welcome to the Food Science Career Development Event. You should have a #2 pencil for this examination. Marks made on the answer sheet using a pencil other than a #2 will not be noticed by the computer/scantron.

Before the start of this examination please place your contest number/label on the accompanying computer-scoring sheet and fill in the appropriate blanks on this form.

You will have fifty (50) minutes to complete this examination. This is ample time. It allows a minute per question. **Select the best possible answer for each question. One answer only is allowed on the test score sheet. Multiple answers on any line will disqualify the answer.**

If you finish early, please remain seated until the other examinees completely finish. You will be dismissed as a group.

**GOOD LUCK
DO YOUR BEST JOB**

IOWA FFA FOOD SCIENCE & TECHNOLOGY
CAREER DEVELOPMENT EVENT
Exam 2014

Multiple Choice

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

- ___ 1. Food is a ___ commodity.
 - a. global
 - b. national
 - c. local
 - d. state

- ___ 2. The periodic table arranges elements by the number of ___ in their outermost energy levels.
 - a. neutrons
 - b. atoms
 - c. protons
 - d. electrons

- ___ 3. What is the symbol for salt?
 - a. NaCl
 - b. C₆H₁₂O₆
 - c. H₂O
 - d. CO₂

- ___ 4. Organic chemistry involves molecules that contain which element?
 - a. carbon
 - b. nitrogen
 - c. oxygen
 - d. calcium

- ___ 5. Carbohydrates are composed of ___ and _____.
 - a. carbon, water
 - b. hydrogen, oxygen
 - c. zinc, aluminum
 - d. gold, calcium

- ___ 6. Which of the following is the source of carbohydrates?
 - a. plant
 - b. human
 - c. animal
 - d. insect

- ___ 7. Vitamin ___ functions in normal blood clotting.
 - a. C
 - b. A
 - c. D
 - d. K

- ___ 8. Sucrose is commonly referred to as _____.
 - a. salt
 - b. carbohydrate
 - c. sugar
 - d. glucose

- ___ 9. Identify the complex carbohydrate that cannot be digested.
 - a. fiber
 - b. cellulose
 - c. sugar
 - d. fat

- ___ 10. ___ makes up 14 to 17 percent of the skeleton.
 - a. Magnesium
 - b. Iron
 - c. Phosphorus
 - d. Sodium

- ___ 11. 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

- ___ 12. Which micromineral is essential for the production of the thyroid hormones?
- calcium
 - iodine
 - fluorine
 - magnesium
- ___ 13. RDA stands for Recommended ___ Allowances.
- Dose
 - Dietary
 - Dairy
 - D-vitamin
- ___ 14. ___ percent of the adult body is made up of water.
- Fifty-five
 - Sixty-five
 - Seventy-five
 - Eighty-five
- ___ 15. Carbohydrates and proteins provide about ___ calories per gram.
- 5
 - 2
 - 4
 - 6
- ___ 16. Fat contributes about ___ calories per gram.
- 9
 - 10
 - 8
 - 7
- ___ 17. Fiber is important in ___ function.
- bowel
 - stomach
 - muscle
 - skeletal
- ___ 18. Most vitamins are measured in ___.
- milligrams
 - grams
 - liters
 - kilograms
- ___ 19. The most important food appearance factor is ___.
- color
 - size
 - shape
 - packaging
- ___ 20. Naturally occurring ___ play a role in food coloring.
- enzymes
 - sugars
 - pigments
 - carbohydrates
- ___ 21. Fruits and vegetables are graded based on their ___ and ___.
- size, shape
 - color, size
 - smell, shape
 - smell, color
- ___ 22. ___ can be achieved on the basis of density or size and shape.
- Separation
 - Quality
 - Clarification
 - Flavor
- ___ 23. The most common drying method is ___ drying.
- freeze-
 - sun or tray drying
 - spray
 - oven
- ___ 24. ___ are the largest of the microorganisms but are still single cells, and some produce spores.
- Yeast
 - Bacteria
 - Molds
 - Ameba

- ___ 25. Microbes that prefer cold temperatures are ____.
- mesophilic
 - thermophilic
 - psychrophilic
 - obligative
- ___ 26. Bacteria or molds that require atmospheric oxygen are ____.
- anaerobic
 - aerobic
 - mesophilic
 - thermophilic
- ___ 27. ___ can destroy the microorganisms and inactivate enzymes.
- Radiation
 - Cooling
 - Drying
 - Freezing
- ___ 28. ___ is the transfer of heat from one particle to another by contact.
- Conduction
 - Convection
 - Radiation
 - Combustion
- ___ 29. ___ heating means that the circulation of currents in one region inside a can distributes the heat to another.
- Conduction
 - Radiation
 - Convection
 - Slow
- ___ 30. ___ is the transfer of energy in the form of electromagnetic waves.
- Compulsion
 - Radiation
 - Convection
 - Conduction
- ___ 31. Low-acid foods have pH values of ___ or less.
- 5.2
 - 4.6
 - 3.9
 - 4.2
- ___ 32. Household refrigerators usually run at ___° to ___°F.
- 45.5, 50.2
 - 40.5, 44.6
 - 32.3, 35.7
 - 21.4, 26.5
- ___ 33. Intimate contact occurs between the food or package and the refrigerant with ___ freezing.
- blast
 - pressure
 - cold
 - immersion
- ___ 34. The freezing point for pure water is ___°F.
- 10
 - 15
 - 28
 - 32
- ___ 35. Which vitamin is used most commonly to control browning in fruits by enzymes?
- K
 - C
 - B
 - D
- ___ 36. Foods high in ___ or other solutes dry more slowly.
- protein
 - salt
 - sugar
 - water
- ___ 37. ___ is when water goes from a solid to a gas without passing through the liquid phase.
- Transfusion
 - Sublimation
 - Evaporation
 - Condensation

- ___ 38. Reducing the volume and weight of a product saves ___ during processing.
- | | |
|-----------|-----------|
| a. time | c. money |
| b. energy | d. flavor |
- ___ 39. Sun-dried ___ are the best known of all dried foods.
- | | |
|-------------|--------------|
| a. tomatoes | c. raisins |
| b. peppers | d. mushrooms |
- ___ 40. Foods that are sterilized by irradiation can be stored for ___ without refrigeration.
- | | |
|-----------|----------|
| a. years | c. weeks |
| b. months | d. days |
- ___ 41. Irradiation causes undesirable flavor changes in ___ products.
- | | |
|----------|--------------|
| a. dairy | c. meat |
| b. grain | d. vegetable |
- ___ 42. Fermentation is the ___ form of food preservation.
- | | |
|-----------|-------------|
| a. oldest | c. best |
| b. newest | d. cheapest |
- ___ 43. Lactic acid bacteria with propionic acid bacteria produces ___ cheese.
- | | |
|---------------|------------------|
| a. cheddar | c. swiss |
| b. mozzarella | d. monterey jack |
- ___ 44. Fermentation microorganisms produce ___ and growth factors in the food.
- | | |
|-------------|-------------|
| a. minerals | c. calories |
| b. vitamins | d. energy |
- ___ 45. Fermentation is stopped by pasteurizing and ___.
- | | |
|------------|-------------|
| a. cooling | c. stirring |
| b. heating | d. settling |
- ___ 46. Bread is leavened with ___.
- | | |
|----------|----------------|
| a. yeast | c. salt |
| b. sugar | d. baking soda |
- ___ 47. GMO stands for ___.
- | | |
|-------------------------------------|---|
| a. genetically modified organism | c. gross moldy oranges |
| b. genetically manufactured oranges | d. genetically malfunctioning organisms |
- ___ 48. The use of food additives is controlled by the ___ clause.
- | | |
|-------------|---------------|
| a. Delaney | c. Delaware |
| b. Additive | d. Supplement |
- ___ 49. ___ are the most heavily used additives.
- | | |
|-------------|---------------|
| a. Minerals | c. Gums |
| b. Vitamins | d. Sweeteners |
- ___ 50. Sequestrants are ___ agents.
- | | |
|--------------|-------------|
| a. cheating | c. chilling |
| b. chelating | d. charcoal |

Food Science Test bank of questions

Answer Section

MULTIPLE CHOICE

1. ANS: A
2. ANS: D
3. ANS: A
4. ANS: A
5. ANS: A
6. ANS: A
7. ANS: D
8. ANS: C
9. ANS: A
10. ANS: C
11. ANS: D
12. ANS: B
13. ANS: B
14. ANS: B
15. ANS: C
16. ANS: A
17. ANS: A
18. ANS: A
19. ANS: A
20. ANS: C
21. ANS: A
22. ANS: A
23. ANS: C
24. ANS: A
25. ANS: C

26. ANS: B
27. ANS: A
28. ANS: A
29. ANS: C
30. ANS: B
31. ANS: B
32. ANS: B
33. ANS: D
34. ANS: D
35. ANS: B
36. ANS: C
37. ANS: B
38. ANS: C
39. ANS: C
40. ANS: A
41. ANS: A
42. ANS: A
43. ANS: C
44. ANS: B
45. ANS: A
46. ANS: A
47. ANS: A
48. ANS: A
49. ANS: D
50. ANS: B