**Why Does Nutrition Matter?**

**True/False**

1. Carbohydrates, proteins, vitamins, and minerals are classified as macronutrients.

2. Both organic and inorganic compounds contain carbon.

3. In order for a food to carry the USDA organic seal it must contain at least 95% organic ingredients.

4. Vitamins can be converted directly into energy within cells.

5. The higher the caloric content of a food, the less ATP can be produced from it.

6. Researcher bias is avoidable by blinding researchers and subjects about who is receiving treatment.

7. In a double-blind study the investigator knows whether a subject is in the treatment or control group.

8. Life expectancy is the average number of years of life remaining for a person.

9. Infectious diseases are the leading causes of death in America.

10. A poor diet is part of the cause of chronic degenerative diseases.

**Multiple Choice: Fact Recall Based**

1. The best definition of nutrition is:

A. the science of how living organisms obtain and use food to support processes required for existence.

B. the study of essential nutrients.

C. the study of newly identified compounds that benefit health.

D. the science of weight loss.

2. A \_\_\_\_\_ is a professional who has been trained specifically to help people make diet and food choices to support a healthy lifestyle.

A. medical doctor

B. nutrition scientist

C. registered dietitian

D. chiropractor

3. An essential nutrient is one that

A. a person must consume upon awakening each day.

B. must be obtained from the diet to sustain life.

C. sustains life, but is not necessarily obtained from the diet.

D. may not be required under certain conditions.

4. A nutrient that is normally nonessential but becomes essential under certain conditions is called

A. an essential nutrient.

B. a nonessential nutrient.

C. a conditionally essential nutrient.

D. a phytochemical.

5. Proteins, carbohydrates, lipids, and water are classified as

A. functional foods.

B. phytochemicals.

C. micronutrients.

D. macronutrients.

6. Vitamins and minerals are classified as \_\_\_\_\_ because only small amounts are required each day.

A. macronutrients

B. micronutrients

C. phytochemicals

D. minor nutrients

7. \_\_\_\_\_ are non-essential compounds found in plants that may produce health benefits.

A. Functional vitamins

B. Phytochemicals

C. Zoochemicals

D. Zoonutrients

8. \_\_\_\_\_ are non-essential compounds found in animals that may produce health benefits.

A. Phytochemicals

B. Zoochemicals

C. Phytonutrients

D. Functional vitamins

9. Functional foods are foods that

A. are sterile.

B. are organic.

C. have a long shelf-life.

D. contain large concentrations of nutrients or phytochemicals or zoochemicals.

10. Dietary fiber is a \_\_\_\_\_ important for maintaining the health of the digestive system.

A. protein

B. carbohydrate

C. lipid

D. fat

11. The macronutrient class that is important for structural aspects of the body (such as muscle and bone) and also helps to maintain the immune system is

A. carbohydrate.

B. protein.

C. lipid.

D. fat.

12. One of the main functions of lipids in the human body is

A. energy production.

B. bone development and structure.

C. muscular strength and development.

D. None of the above

13. Water is essential for human well-being because

A. it serves as a solvent for chemical reactions within cells.

B. it enables nutrient transport around the body.

C. it helps to maintain body temperature.

D. All of the above

14. Vitamins are classified according to

A. their solubility in water.

B. their alphabetical names.

C. the amounts required to sustain life.

15. Cellular energy is stored in the form of

A. adenosine triphosphate (ATP).

B. glucose.

C. vitamins.

D. minerals.

16. A calorie is

A. a unit of measure used to express the amount of energy in a food.

B. a number assigned to a food based on the number of ingredients in that food.

C. a marker of the glucose content of foods.

D. an indicator of how vitamin-rich a food is.

17. Carbohydrates and proteins provide \_\_\_\_\_ calories per gram, while lipids provide \_\_\_\_\_ calories per gram.

A. 4, 4

B. 4, 7

C. 4, 9

D. 9, 4

18. The scientific method consists of the following three basic steps:

A. making an observation, proposing a hypothesis, and collecting data.

B. making an observation, collecting data, and analyzing results.

C. proposing a hypothesis, analyzing results, and proposing a new hypothesis.

D. proposing an observation, making a hypothesis, and collecting results.

19. A hypothesis is

A. a complicated equation dividing two variables.

B. a prediction about the relationship between variables.

C. a list of variables to be studied.

D. a series of steps used by scientists to explain observations.

20. A relationship where one variable is directly altered by another is called

A. an intervention.

B. a cause-and-effect relationship.

C. a correlation.

D. an epidemiological relationship.

21. A study performed on a group of people who are not asked to change their behaviors in any way is best described as

A. an intervention study.

B. an epidemiologic study.

C. a randomized, controlled study.

D. a double-blind study.

22. In an intervention study, the control group consists of

A. study participants who did not receive the study treatment or intervention.

B. study participants who have been asked to control their food intake.

C. study participants who received the study treatment or intervention.

D. study participants who will be included in a follow-up study.

23. At times, control subjects may experience an apparent effect of the study treatment even though they did not receive any treatment. This phenomenon is called

A. the placebo effect.

B. a biased outcome.

C. the control effect.

D. a blinded outcome.

24. An experiment in which the participants do not know whether they are receiving the treatment or placebo but the scientists do is called a

A. disorganized study.

B. double-blind study.

C. single-blind study.

D. cause and effect study.

25. Morbidity rate is defined as

A. the number of deaths that occur in a population during a certain time period.

B. the number of infant deaths that occur within a given year.

C. the number of illnesses or diseases that occur in a population during a certain period of time.

D. the number of illnesses or diseases that occur in people over 65 years old during a certain period of time.

**Multiple Choice: Application Based**

26. The science of nutrition involves understanding how

A. living organisms obtain and use food to support processes required for existence.

B. nutrients are utilized for energy or regulation of important chemical processes.

C. nutrient needs change as we age.

D. All of the above

27. Babies require 4 essential dietary lipids to support growth and development, whereas older children and adults require only 2 essential dietary lipids. The lipids required in babies are examples of

A. conditionally essential nutrients.

B. nonessential nutrients.

C. unclassified nutrients.

D. phytochemicals.

28. Grains, cereals, and fruits are good food sources of

A. proteins.

B. carbohydrates.

C. lipids.

D. fats.

29. The main source of energy for cells under normal conditions is

A. glucose.

B. protein.

C. lipids.

D. vitamins.

30. The basic molecular structure of proteins differs from that of carbohydrates and lipids because, along with carbon, hydrogen, and oxygen, protein molecules also contain

A. nitrogen.

B. calcium.

C. sodium.

D. magnesium.

31. Meats and beans are good food sources of

A. fats.

B. lipids.

C. proteins.

D. carbohydrates.

32. Energy-yielding nutrients are all

A. zoonutrients.

B. phytonutrients.

C. micronutrients.

D. macronutrients.

33. Energy may be defined as

A. the capacity to do work.

B. kilocalories.

C. a cellular product stored within ATP.

D. All of the above

34. If a slice of bread contains 15 grams of carbohydrates, 3 grams of protein, and 1 gram of lipids, how many calories does it provide?

A. 96

B. 76

C. 81

D. 171

35. The relationship between the time children go to bed and the time the sun goes down is best described as

A. an intervention.

B. a cause-and-effect relationship.

C. a correlation.

D. an epidemiological relationship.

36. An investigator wanted to determine the effect of egg consumption on cholesterol levels. She asked subjects to consume 3 eggs per day for three weeks and tested their cholesterol levels before and after the 3 weeks. This type of study is an \_\_\_\_\_ study and should also include a \_\_\_\_\_ group.

A. epidemiologic, control

B. epidemiologic, blinded

C. intervention, random

D. intervention, control

37. If an investigator designs an intervention study with a control group, that group will receive a \_\_\_\_\_ instead of the study treatment.

A. panacea

B. placebo

C. half-dose

D. None of the above

38. The gold standard study design for intervention studies is called

A. a random study.

B. a single-blind study.

C. a randomized, single-blind, uncontrolled study.

D. a randomized, double-blind, placebo-controlled study.

39. “Where was the study published?” is one of the questions that can be helpful in determining if a nutrition claim is hearsay or has a scientific basis. What type of publication is likely to be the most reliable source of nutrition information?

A. A local newspaper

B. A blog written by a food writer

C. A fitness publication

D. A peer-reviewed journal

40. An important aspect of a randomized, double-blind, placebo-controlled study is that subjects

A. must receive both treatment and placebo.

B. must be blinded as to whether they are in the treatment or placebo group.

C. must be assigned to the treatment or control group by the investigator.

D. must be aware of whether they are receiving the treatment or placebo.

41. If someone wants to know how many people have died in a certain population during a specific time period, he or she would ask about the

A. mortality rate.

B. morbidity rate.

C. life expectancy.

D. life span.

42. Which of the following is true concerning trends in infant mortality rate and life expectancy in the United States over the past century?

A. Infant mortality rates have decreased and life expectancy has increased.

B. Infant mortality rates have increased and life expectancy has decreased.

C. Infant mortality rates have decreased and life expectancy has decreased.

D. Infant mortality rates have increased and life expectancy has increased.

43. Compared with non-infectious diseases, infectious diseases

A. are longer in duration.

B. are less likely to be curable.

C. are caused by pathogens.

D. are not contagious.

44. Chronic degenerative diseases are characterized by all of the following except:

A. They are non-infectious.

B. They develop quickly.

C. They cause tissues to breakdown over time.

D. They result in loss of tissue function over time.

45. As a society develops into a more industrialized economy, the accompanying shift from under-nutrition to over-nutrition is referred to as the

A. French paradox.

B. nutrition transition.

C. nutrition conundrum.

D. industrialization of nutrition.

**Answer Key *Note:*** ANS = correct answer; REF = page reference; TOP = section/objective

**True/False**

1. ANS: F REF: 5

2. ANS: F REF: 5

3. ANS: T REF: 5

4. ANS: F REF: 8

5. ANS: F REF: 9

6. ANS: T REF: 12

7. ANS: F REF: 12

8. ANS: T REF: 16

9. ANS: F REF: 18

10. ANS: T REF: 19 TOP: 1.8

**Multiple Choice**

1. ANS: A REF: 3

2. ANS: C REF: 3

3. ANS: B REF: 4

4. ANS: C REF: 4

5. ANS: D REF: 5

6. ANS: B REF: 5

7. ANS: B REF: 6

8. ANS: B REF: 6

9. ANS: D REF: 6

10. ANS: B REF: 7

11. ANS: B REF: 7

12. ANS: A REF: 7

13. ANS: D REF: 8

14. ANS: A REF: 8

15. ANS: A REF: 8

16. ANS: A REF: 9

17. ANS: C REF: 9

18. ANS: A REF: 9

19. ANS: B REF: 10

20. ANS: B REF: 11

21. ANS: B REF: 11

22. ANS: A REF: 12

23. ANS: A REF: 12

24. ANS: C REF: 12

25. ANS: C REF: 16

26. ANS: D REF: 3

27. ANS: A REF: 4

28. ANS: B REF: 7

29. ANS: A REF: 7

30. ANS: A REF: 7

31. ANS: C REF: 7

32. ANS: D REF: 8

33. ANS: D REF: 8-9

34. ANS: C REF: 9

35. ANS: C REF: 11

36. ANS: D REF: 12

37. ANS: B REF: 12

38. ANS: D REF: 13

39. ANS: D REF: 13 TOP: 1.6

40. ANS: B REF: 12

41. ANS: A REF: 16

42. ANS: A REF: 16

43. ANS: C REF: 17

44. ANS: B REF: 17

45. ANS: B REF: 19