Chapter 1 – An Overview of Nutrition

MULTIPLE CHOICE

1. Which of the following differentiates chronic disease from acute disease?
   a. It develops quickly.
   b. It lasts a short time.
   c. It produces sharp pains.
   d. It progresses gradually.

   ANS: D REF: p. 3, Section 1.0-Introduction
   MSC: Knowledge

2. Which of the following differentiates acute disease from chronic disease?
   a. It develops slowly.
   b. It progresses quickly.
   c. It lasts a long time.
   d. It has few symptoms in the developmental stages.

   ANS: B REF: p. 3, Section 1.0-Introduction
   MSC: Knowledge

3. What is the chief reason people choose the foods they eat?
   a. cost
   b. taste
   c. convenience
   d. nutritional value

   ANS: B REF: p. 3, Section 1.1-Food Choices
   MSC: Knowledge

4. What are the consequences of making poor food choices?
   a. Over the long term, they will reduce lifespan in all people.
   b. Over the long term, they can promote heart disease and cancer.
   c. Over the short term, they cause chronic disease.
   d. Over even a single day, they exert great harm to your health.

   ANS: D REF: p. 3-5, Section 1.1-Food Choices
   MSC: Knowledge

5. Which of the following would likely offer the most help to a university student who is responsible for his or her own food purchase and preparation and wants to choose healthier foods?
   a. a listing of discount food stores and restaurants offering healthy choices
   b. identification of healthy convenience and fast food choices
   c. a healthy eating plan based on behavioural and social influences on their personal food choices
   d. information on the energy (kcal) and nutrient content of common grocery and fast foods

   ANS: C REF: p. 3-5, Section 1.1-Food Choices
   MSC: Application

6. A strong dislike of noodle soup that began when a child was sick and persisted for years afterwards is an example of which of the following influences on food choice?

a. habit
b. social interaction
c. conversion
d. negative association

ANS: D REF: p. 4, Section 1.1-Food Choices
MSC: Knowledge

7. Preference for a food because it was offered as a reward for good behaviour when one was young is an example of which of the following terms?
a. social interaction
b. reverse psychology
c. positive association
d. habitual reinforcement

ANS: C REF: p. 4, Section 1.1-Food Choices
MSC: Knowledge

8. A person who eats a bowl of oatmeal for breakfast every day would be displaying a food choice most likely based on which of the following factors?
a. habit
b. availability
c. body image
d. environmental concerns

ANS: A REF: p. 4, Section 1.1-Food Choices
MSC: Knowledge

9. Which of the following represents a food choice based on negative association?
a. A tourist from China rejects a hamburger due to unfamiliarity.
b. A child spits out his mashed potatoes because they taste too salty.
c. A teenager grudgingly accepts an offer for an ice cream cone to avoid offending a close friend.
d. An elderly gentleman refuses a peanut butter and jelly sandwich because this food was a staple in the poor family he grew up in.

ANS: D REF: p. 4, Section 1.1-Food Choices
MSC: Knowledge

10. Jane is watching an exciting sports match of her favourite team and eating because of nervousness. Her food choice is most likely based on which of the following factors?
a. habit
b. ethnic heritage
c. emotional comfort
d. positive association

ANS: C REF: p. 4, Section 1.1-Food Choices
MSC: Knowledge

11. A person who alters his diet due to religious convictions is most likely motivated by which of the following?
a. his values
b. his body image
c. his ethnic heritage
d. his functional association

ANS: A REF: p. 4-5, Section 1.1-Food Choices
MSC: Knowledge

12. What is the term for a food that provides health benefits beyond its nutrient contribution?
    a. neutrafood
    b. enhanced food
    c. functional food
    d. phytonutritional food

    ANS: C REF: p. 5, Section 1.1-Food Choices
    MSC: Knowledge

13. Which of the following statements best explains why orange juice with added calcium is considered to be a functional food for?
    a. In addition to helping to meet Vitamin C needs, it also helps to meet calcium needs.
    b. The added calcium may promote bone health as well as help meet calcium recommendations.
    c. The original food has been fortified with a nutrient not normally in that food.
    d. Orange juice has been modified to improve its phytochemical properties.

    ANS: C REF: p. 5, Section 1.1-Food Choices
    MSC: Application

14. What is the name for non-nutrient substances found in plant foods that show biological activity in the body?
    a. folionutrients
    b. inorganic fibres
    c. phytochemicals
    d. phyllochemicals

    ANS: C REF: p. 5, Section 1.1-Food Choices
    MSC: Knowledge

15. Approximately how often is the complete lining of a person's digestive tract renewed?
    a. every 3–5 days
    b. every 3 weeks
    c. every 1–2 months
    d. every 6–12 months

    ANS: A REF: p. 6, Section 1.2-The Nutrients
    MSC: Knowledge

16. By chemical analysis, which of the following is present in the highest amounts in most foods?
    a. fats
    b. water
    c. proteins
    d. carbohydrates

    ANS: B REF: p. 6, Section 1.2-The Nutrients
    MSC: Knowledge

17. Approximately how much water (kg) would be found in a 50 kg person?
    a. 5
    b. 10
    c. 20

d. 30

ANS: D REF: p. 6, Section 1.2-The Nutrients
MSC: Knowledge

18. Which of the following classes of nutrients is inorganic?
a. minerals
b. protein
c. carbohydrates
d. vitamins

ANS: A REF: p. 7, Section 1.2-The Nutrients
MSC: Knowledge

19. Which of the following terms refers to any nutrient that is both needed by the body AND must be supplied by foods?
a. a nutraceutical
b. an energy-yielding nutrient
c. an organic nutrient
d. an essential nutrient

ANS: D REF: p. 7, Section 1.2-The Nutrients
MSC: Knowledge

20. Which of the following groups contains only macronutrients**?**
a. fat, carbohydrate and calcium
b. fat, protein, and water
c. fat, protein and carbohydrate
d. fat, water and calcium

ANS: C REF: p. 7, Section 1.2-The Nutrients
MSC: Knowledge

21. Which of the following is a macronutrient?
a. protein
b. calcium
c. vitamin C
d. vitamin D

ANS: A REF: p. 7, Section 1.2-The Nutrients
MSC: Knowledge

22. Which of the following is a micronutrient?
a. iron
b. protein
c. alcohol
d. carbohydrate

ANS: A REF: p. 7, Section 1.2-The Nutrients
MSC: Knowledge

23. Which of the following is an organic compound?
a. salt
b. water
c. calcium
d. vitamin C

ANS: D REF: p. 7, Section 1.2-The Nutrients
MSC: Knowledge

24. Which of the following best differentiates a non-essential nutrient from an essential nutrient ?
    a. It is found in food
    b. It is degraded by the body
    c. It is made in sufficient quantities by the body
    d. It is used to synthesize other compounds in the body

    ANS: C REF: p. 7, Section 1.2-The Nutrients
    MSC: Knowledge

25. Which of the following best describes *organic* compounds?
    a. They are products sold at health food stores.
    b. They are products grown without use of pesticides.
    c. They are foods having superior nutritional qualities.
    d. They are substances with carbon-carbon or carbon-hydrogen bonds.

    ANS: D REF: p. 7, Section 1.2-The Nutrients
    MSC: Knowledge

26. Which of the following is an organic nutrient?
    a. fat
    b. water
    c. oxygen
    d. calcium

    ANS: A REF: p. 7, Section 1.2-The Nutrients
    MSC: Knowledge

27. Approximately how many nutrients are considered indispensable in the diet?
    a. 10
    b. 20
    c. 30
    d. 40

    ANS: D REF: p. 7, Section 1.2-The Nutrients
    MSC: Knowledge

28. If eaten in excess, which of the following would add fat to the body?
    a. vitamins
    b. proteins
    c. phytochemicals
    d. minerals

    ANS: D REF: p. 7, Section 1.2-The Nutrients
    MSC: Application

29. Which of the following is an example of a micronutrient?
    a. fat
    b. protein
    c. vitamin C
    d. carbohydrate

    ANS: C REF: p. 7, Section 1.2-The Nutrients

MSC: Knowledge

30. Which of the following nutrients releases energy during its metabolism?
    a. water
    b. minerals
    c. vitamins
    d. carbohydrates

    ANS: D REF: p. 7, Section 1.2-The Nutrients
    MSC: Knowledge

31. How much energy is required to raise the temperature of 1 kilogram of water 1°C?
    a. 1 kilocalorie
    b. 10 kilocalories
    c. 100 kilocalories
    d. 1,000 kilocalories

    ANS: A REF: p. 7, Section 1.2-The Nutrients
    MSC: Knowledge

32. In North America, food energy is commonly expressed in kcalories. Which of the following is the international unit for food energy?
    a. kilojoules
    b. kilograms
    c. kilometres
    d. kilonewtons

    ANS: A REF: p. 8, Section 1.2-The Nutrients
    MSC: Knowledge

33. Internationally, units of food energy are expressed in which of the following units?
    a. newtons
    b. degrees Centigrade
    c. kilojoules
    d. kilocalories

    ANS: C REF: p. 8, Section 1.2-The Nutrients
    MSC: Knowledge

34. What is the equivalent volume in millilitres of a half-cup?
    a. 50 mL
    b. 85 mL
    c. 120 mL
    d. 200 mL

    ANS: C REF: p. 8, Section 1.2-The Nutrients
    MSC: Knowledge

35. What is the approximate weight, in grams, of a half-cup vegetable serving?
    a. 25 g
    b. 50 g
    c. 75 g
    d. 100 g

    ANS: D REF: p. 8, Section 1.2-The Nutrients
    MSC: Knowledge

36. Gram for gram, which of the following compounds provides the most energy?
    a. fats
    b. alcohol
    c. proteins
    d. carbohydrates

    ANS: A REF: p. 9, Section 1.2-The Nutrients
    MSC: Knowledge

37. A diet for weight loss calls for a daily intake of 1400 kcalories, which includes 30 g of fat. Approximately what percentage of the total energy is contributed by fat?
    a. 2.1 percent
    b. 8.5 percent
    c. 15.0 percent
    d. 19.3 percent

    ANS: D REF: p. 9, Section 1.2-The Nutrients
    MSC: Application

38. A diet provides a total of 2200 kcalories per day, of which 40 percent of the **energy** is from fat and 20 percent from protein. How many **grams** of carbohydrate are contained in the diet?
    a. 220 g
    b. 285 g
    c. 440 g
    d. 880 g

    ANS: A REF: p. 9, Section 1.2-The Nutrients
    MSC: Application

39. What is the kcalorie value of a meal supplying 110 g of carbohydrates, 25 g of protein, 20 g of fat, and 5 g of alcohol?
    a. 160 kcalories
    b. 345 kcalories
    c. 560 kcalories
    d. 755 kcalories

    ANS: D REF: p. 9, Section 1.2-The Nutrients
    MSC: Application

40. Which of the following nutrient sources yields **more** energy than 4 kcalories per gram?
    a. plant fats
    b. plant proteins
    c. animal proteins
    d. plant carbohydrates

    ANS: A REF: p. 9, Section 1.2-The Nutrients
    MSC: Knowledge

41. Which of the following is a result of the metabolism of macronutrients?
    a. Energy is released.
    b. Body fat increases.
    c. Micronutrients are produced.
    d. Body water decreases.

    ANS: A REF: p. 9, Section 1.2-The Nutrients

MSC: Knowledge

42. In the body, what can the chemical energy in food be converted into?
    a. heat
    b. light
    c. water
    d. stored mineral (e.g., bone)

    ANS: A REF: p. 9-10, Section 1.2-The Nutrients
    MSC: Knowledge

43. Jenny consumes a large meal providing more energy than she expends. Which component of the meal is least likely to be converted to body fat and stored?
    a. lean turkey
    b. whole grain bread
    c. rum
    d. diet cola

    ANS: D REF: p. 10, Section 1.2-The Nutrients
    MSC: Knowledge

44. How many different vitamins do we required in our diet?
    a. 4
    b. 8
    c. 10
    d. 13

    ANS: D REF: p. 10, Section 1.2-The Nutrients
    MSC: Knowledge

45. Which of the following best differentiates dietary vitamins from dietary minerals?
    a. They are essential.
    b. They are inorganic
    c. They are destructible
    d. They are kcalorie-free

    ANS: C REF: p. 10-11, Section 1.2-The Nutrients
    MSC: Knowledge

46. Which of the following differentiates dietary minerals from dietary vitamins?
    a. They are inorganic.
    b. They yield 4 kcalories per gram.
    c. Some are unstable to light.
    d. Some may be destroyed during cooking.

    ANS: A REF: p. 10-11, Section 1.2-The Nutrients
    MSC: Knowledge

47. How many different minerals are known to be required in our diet?
    a. 7
    b. 9
    c. 12
    d. 16

    ANS: D REF: p. 11, Section 1.2-The Nutrients
    MSC: Knowledge

48. Which of the following groups of nutrients contains only minerals?
    a. calcium, iron, biotin
    b. calcium, sodium, zinc
    c. calcium, thiamin, magnesium
    d. calcium, phosphorus, folate

    ANS: B REF: p. 11, Section 1.2-The Nutrients
    MSC: Knowledge

49. Overcooking a food is least likely to affect which of the following groups of nutrients?
    a. vitamins
    b. minerals
    c. proteins
    d. carbohydrates

    ANS: B REF: p. 11, Section 1.2-The Nutrients
    MSC: Knowledge

50. The study of how a person's genes interact with nutrients is known as which of the following?
    a. obesogenetics
    b. nutritional genomics
    c. genetic nutromics
    d. nutritional nucleic acid research

    ANS: B REF: p. 11, Section 1.3-The Science of Nutrition
    MSC: Knowledge

51. Your friend Carrie took a daily supplement of vitamin C for a week following the first signs of a cold and stated that she felt a lot better. Which of the following best describes her experience?
    a. an anecdote
    b. a blind experiment
    c. a human intervention trial
    d. a case-control experience

    ANS: A REF: p. 12 - 14, Section 1.3-The Science of Nutrition
    MSC: Knowledge

52. In the scientific method, what is the name for a statement such as the following? "The researchers anticipate that more of the variation in body weight will be explained by diet than physical activity."
    a. the theory
    b. the placebo effect
    c. the hypothesis
    d. the correlation

    ANS: C REF: p. 13, Section 1.3-The Science of Nutrition
    MSC: Application

53. Among the following, which is the major weakness of a laboratory-based study?
    a. The costs are usually high.
    b. It is difficult to replicate the findings.
    c. The results cannot be directly applied to human beings.
    d. Experimental variables cannot be easily controlled.

    ANS: C REF: p. 13, Section 1.3-The Science of Nutrition
    MSC: Knowledge

54. Who are the subjects in a clinical trial?
    a. tissue cells in culture
    b. rats, mice or other experimental animals
    c. individual human beings
    d. populations of human beings

    ANS: C REF: p. 13-14, Section 1.3-The Science of Nutrition
    MSC: Application

55. What is the meaning of a double-blind experiment?
    a. Two groups of subjects take turns getting the control or experimental treatment.
    b. Neither subjects nor researchers know which subjects are in the control or experimental group.
    c. Subjects know whether they are in the control or experimental group, but the researchers do know.
    d. One group of subjects receives placebo treatment twice.

    ANS: B REF: p. 13-15, Section 1.3-The Science of Nutrition
    MSC: Knowledge

56. What is the benefit of using controls in an experiment?
    a. The subject group size can be very large.
    b. The subjects do not know anything about the experiment.
    c. The subjects who are treated are balanced against the placebos.
    d. The subjects are similar in all respects except for the treatment being tested.

    ANS: D REF: p. 13-15, Section 1.3-The Science of Nutrition
    MSC: Knowledge

57. What is the benefit of using placebos in an experiment?
    a. All subjects are similar.
    b. All subjects receive a treatment.
    c. Neither subjects nor researchers know who is receiving treatment.
    d. All subjects will feel some improvement.

    ANS: B REF: p. 13, 15, Section 1.3-The Science of Nutrition
    MSC: Knowledge

58. Research has found that countries across the world with higher dietary fibre intakes have lower rates of some chronic diseases. Which of the following types of studies does such research refer to?
    a. case-control studies
    b. epidemiological studies
    c. human intervention trials
    d. correlation-control studies

    ANS: B REF: p. 13-15, Section 1.3-The Science of Nutrition
    MSC: Application

59. What is the benefit of using a large sample size in an experiment?
    a. Chance variation is ruled out.
    b. There will be no placebo effect.
    c. The experiment will not need to be double-blind.
    d. The control group will be similar to the experimental group.

    ANS: A REF: p. 15, Section 1.3-The Science of Nutrition

MSC: Knowledge

60. In a study of the effectiveness of vitamin C in reducing the incidence of colds in grade 6 students,, a researcher plans to distribute all the vitamin C pill bottles to the girls and all the placebo pill bottles to the boys. What should the researcher do differently?
    a. He should allow the girls and boys to choose whether they want the vitamin C or placebo pills.
    b. He should distribute the bottles randomly, and then tell the students what they are getting.
    c. He should have students randomly choose the bottles but not tell him what group they received until the end of the study.
    d. He should arrange that neither he nor the students knows the contents of the randomly distributed pill bottles.

    ANS: D REF: p. 15, Section 1.3-The Science of Nutrition
    MSC: Application

61. Overeating and gaining body weight is an example of which of the following?
    a. variable effect
    b. positive correlation
    c. theory
    d. randomization effect

    ANS: B REF: p. 15, Section 1.3-The Science of Nutrition
    MSC: Knowledge

62. An increase in exercise accompanied by a decrease in body weight is an example of which of the following?
    a. a variable effect
    b. a cohort finding
    c. a randomization effect
    d. a negative correlation

    ANS: D REF: p. 15, Section 1.3-The Science of Nutrition
    MSC: Knowledge

63. Before publication in a reputable journal, the findings of a research study must undergo scrutiny by experts in the field. What is the name of the process involved?
    a. peer review
    b. cohort review
    c. replication
    d. external validation

    ANS: A REF: p. 16, Section 1.3-The Science of Nutrition
    MSC: Knowledge

64. Which of the following sets of values is included in the Dietary Reference Intakes EXCEPT?
    a. AI
    b. RDI
    c. EAI
    d. TUI

    ANS: D REF: p. 17-18, Section 1.4-Dietary Reference Intakes
    MSC: Knowledge

65. Which of the following sets of values is included in the Dietary Reference Intakes?

a. Adequate Level
b. Estimated Average Intakes
c. Tolerable Upper Intaks
d. Recommended Dietary Allowances

ANS: D REF: p. 17-18, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

66. Which of the following terms refers to the smallest amount of a nutrient, consumed over a prolonged period that maintains a specific function?
a. the nutrient allowance
b. the nutrient requirement
c. the nutrient tolerable limit
d. the nutrient adequate intake

ANS: B REF: p. 18, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

67. If a group of people consumed an amount of protein equal to the average **requirement** for their population group, what percentage would receive insufficient amounts?
a. 2 percent
b. 33 percent
c. 50 percent
d. 98 percent

ANS: C REF: p. 18-19, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

68. A health magazine contacted you for your expert opinion on what measure best describes the amounts of nutrients that should be consumed by healthy people. What should your reply be?
a. The Dietary Reference Intakes because they are a set of nutrient intake values for healthy people in the United States and Canada.
b. The Tolerable Upper Intake Levels because they are the maximum daily amount of a nutrient that appears safe for most healthy people.
c. The Estimated Average Requirements because they reflect the average daily amount of a nutrient required by half of the healthy people of a population.
d. The Recommended Dietary Allowances because they represent the average daily amount of a nutrient considered adequate to meet the known nutrient needs of practically all healthy people.

ANS: D REF: p. 18-19, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

69. Recommended Dietary Allowances are calculated based on which of the following amounts?
a. Lower Tolerable Limit
b. Upper Tolerable Limit
c. Adequate Intake
d. Estimated Average Requirement

ANS: D REF: p. 18-19, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

70. Which of the following terms refer to the amount of a nutrient that meets the needs of about 98 percent of a population?
a. Adequate Intake

b. Daily Recommended Value
c. Tolerable Upper Intake Level
d. Recommended Dietary Allowance

ANS: D REF: p. 18-19, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

71. What is the basis for the RDA (Recommended Dietary Allowances)?
a. to exceed the needs of most people by more than 2x in order to protect against inadequacy
b. to exceed the amount needed to prevent deficiency and support optimal health for the average member of the population group
c. to meet the needs for optimal health of almost all healthy people
d. to prevent deficiency diseases in half the population

ANS: C REF: p. 18-19, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

72. Which statement best describes the aim in setting the RDA for almost all vitamin and mineral intakes?
a. They are set low, to reduce the risk of toxicity.
b. They are set high, to cover virtually all healthy individuals.
c. They are set very high, to cover every single person.
d. They are set at the mean requirement, to cover most healthy individuals.

ANS: B REF: p. 18-19, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

73. How does an Adequate Intake (AI) differ from a Recommended Dietary Allowance (RDA)?
a. It exceeds the average requirements, where an RDA does not.
b. It is more tentative than RDA values.
c. It covers the requirement of 100% of the population, where the RDA covers 95%.
d. It serves as nutrient intake goal for populations and RDA for individuals.

ANS: B REF: p. 18-19, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

74. Recommended Dietary Allowances can be directly used for which of the following purposes?
a. to measure nutritional status of population groups
b. to assess dietary nutrient adequacy for individuals
c. to plan the diet of a malnourished individual
d. to calculate exact food requirements for most individuals

ANS: B REF: p. 18-21, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

75. A friend tells you that the dietary reference intakes do NOT apply to her. Which of the following would be an appropriate explanation for this exception?
a. She has a chronic illness.
b. She consumes vitamin and mineral supplements.
c. She eats a traditional Chinese diet.
d. She knows that his recommendations are not necessarily optimal intakes for everybody.

ANS: A REF: p. 18-21, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

76. The Dietary Reference Intakes may be used for which of the following purposes?

a. to treat people with diet-related disorders
b. to diagnose malnutrition
c. to plan and evaluate diets for healthy people
d. to determine the need for vitamin and mineral fortification of the diet

ANS: C REF: p. 18-21, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

77. Which of the following is a feature of the RDA but NOT likely a feature of the AI?
a. It is accepted as a DRI.
b. It serves as nutrient intake goals for individuals
c. It covers 98 percent of the population's nutrient needs
d. It exceeds average requirements.

ANS: C REF: p. 19, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

78. Which of the following is a purpose of both the Recommended Dietary Allowance and Adequate Intake?
a. setting nutrient goals for individuals
b. identifying toxic intakes of nutrients
c. restoring health of malnourished individuals
d. identifying average requirements to not only prevent deficiency, but support optimal health

ANS: A REF: p. 19, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

79. Bob consumes about 2500 kcalories per day, as 150 g of fat, 140 g of carbohydrate, and 150 g of protein. Which of the following revision would be appropriate to help Bob's intake fit within the Acceptable Macronutrient Distribution Ranges?
a. 10 g fat, 20 g protein, 45 g carbohydrate
b. 70 g fat, 156 g protein, 313 g carbohydrate
c. 140 g fat, 150 g protein, 150 g carbohydrate
d. 500 g fat, 750 g protein, 1250 g carbohydrate

ANS: B REF: p. 19, Section 1.4-Dietary Reference Intakes
MSC: Application

80. Which of the following statements best defines the Tolerable Upper Intake Level of a nutrient?
a. It is the maximum amount allowed for fortifying a food.
b. It is a a level 2 times the RDA or 3 times the AI.
c. It is the maximum allowable amount available in supplement form.
d. It is the maximum amount from all sources that appears safe for most healthy people.

ANS: D REF: p. 19, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

81. What is the AMDR for fat?
a. 10–25 percent of energy
b. 20–35 percent of energy
c. 30–45 percent of energy
d. 40–65 percent of energy

ANS: B REF: p. 19, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

82. Which of the following represents a rationale for setting the recommendation for energy?
    a. Because protein is an energy nutrient, the figures for energy intake are set in proportion to protein intake.
    b. Because a large number of people are overweight, the figures are set to induce a gradual weight loss in most individuals.
    c. Because the energy needs within each population group show little variation, the figures are set to meet the needs of almost all individuals.
    d. Because a margin of safety would result in excess energy intake for a large number of people, the figures are set at the average energy intake.

    ANS: D REF: p. 20, Section 1.4-Dietary Reference Intakes
    MSC: Knowledge

83. Which of the following terms represents the average kcalorie intake that is recommended for a healthy individual?
    a. Estimated Energy Requirement
    b. Average Activity Requirement
    c. Recommended Dietary Allowance
    d. Acceptable Energy Distribution Range

    ANS: A REF: p. 20, Section 1.4-Dietary Reference Intakes
    MSC: Knowledge

84. Which of the following terms refers to the percentages of kcalorie intake from protein, fat, and carbohydrate that are thought to reduce the risk of chronic diseases?
    a. Estimated Energy Requirements
    b. Tolerable Range of Kilocalorie Intakes
    c. Estimated Energy Nutrient Recommendations
    d. Acceptable Macronutrient Distribution Ranges

    ANS: D REF: p. 20, Section 1.4-Dietary Reference Intakes
    MSC: Knowledge

85. What is the AMDR for carbohydrate?
    a. 5–10 percent of energy
    b. 15–25 percent of energy
    c. 30–40 percent of energy
    d. 45–65 percent of energy

    ANS: D REF: p. 20, Section 1.4-Dietary Reference Intakes
    MSC: Knowledge

86. Of the following percentages of energy intake from carbohydrates, which falls within the AMDR?
    a. 35 percent
    b. 50 percent
    c. 70 percent
    d. 90 percent

    ANS: B REF: p. 20, Section 1.4-Dietary Reference Intakes
    MSC: Knowledge

87. What is the AMDR for protein?
    a. 10–35 percent of energy
    b. 40–45 percent of energy

c. 50–65 percent of energy
d. 70–85 percent of energy

ANS: A REF: p. 20, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

88. What is the upper range of fat intake in the AMDR?
a. 20 percent of energy
b. 25 percent of energy
c. 35 percent of energy
d. 40 percent of energy

ANS: C REF: p. 20, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

89. If a person consuming a 2500 kcalorie diet included protein at the upper AMDR limit, approximately how many **grams** of protein would be eaten?
a. 41 g
b. 63 g
c. 135 g
d. 219 g

ANS: D REF: p. 20, Section 1.4-Dietary Reference Intakes
MSC: Application

90. What is the body weight (kg) of the "reference" adult male?
a. 70
b. 80
c. 90
d. 100

ANS: A REF: p. 20, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

91. What is the body weight (kg) of the "reference" adult female?
a. 47
b. 57
c. 67
d. 77

ANS: B REF: p. 20, Section 1.4-Dietary Reference Intakes
MSC: Knowledge

92. Which of the following methods is used to detect nutrient deficiencies?
a. assessment techniques
b. nutrient stages identification
c. overt symptoms identification
d. outward manifestations assessment

ANS: A REF: p. 21-22, Section 1.5 Nutrition Assessment
MSC: Knowledge

93. As a registered dietitian at Jones Hospital, what nutrition assessment procedures would you recommend to assess the nutritional status of a new patient?
a. diet history, food likes and dislikes, allergies, favourite family recipes
b. diet history, anthropometric data, physical examinations, food likes and dislikes

c. diet history will provide sufficient information
d. diet history, anthropometric data, physical examinations, laboratory tests

ANS: D REF: p. 21-22, Section 1.5 Nutrition Assessment
MSC: Knowledge

94. Which of the following is an anthropometric measure?
a. body weight
b. blood pressure
c. blood iron level
d. food portion size

ANS: A REF: p. 22, Section 1.5 Nutrition Assessment
MSC: Knowledge

95. Inspection of hair, eyes, skin, and posture is part of the nutrition assessment component known as which of the following?
a. diet history
b. anthropometric measurement
c. biochemical testing
d. physical examination

ANS: D REF: p. 23, Section 1.5 Nutrition Assessment
MSC: Knowledge

96. Which of the following approaches is used to identify abnormal functions inside the body due to a nutrient deficiency?
a. diet history
b. laboratory tests
c. anthropometric measurements
d. physical examination

ANS: B REF: p. 23, Section 1.5 Nutrition Assessment
MSC: Knowledge

97. Which of the following represents the usual sequence of stages in the development of a nutrient deficiency resulting from inadequate intake?
a. declining nutrient stores, abnormal functions within the body, and overt signs
b. abnormal functions within the body, declining nutrient stores, and overt signs
c. abnormal functions within the body, overt signs, and declining nutrient stores
d. declining nutrient stores, overt signs, and abnormal functions within the body

ANS: A REF: p. 23, Section 1.5 Nutrition Assessment
MSC: Knowledge

98. Which of the following would most likely lead to a primary nutrient deficiency?
a. inadequate nutrient intake
b. reduced nutrient absorption
c. increased nutrient excretion
d. increased nutrient destruction

ANS: A REF: p. 23, Section 1.5 Nutrition Assessment
MSC: Knowledge

99. What type of deficiency is caused by inadequate absorption of a nutrient?
a. primary

b. clinical
c. secondary
d. subclinical

ANS: C REF: p. 23, Section 1.5 Nutrition Assessment
MSC: Knowledge

100. Which of the following features best identifies a subclinical nutrient deficiency?
a. It shows overt signs.
b. It is in the early stages.
c. It shows resistance to treatment.
d. It causes side effects that can be treated without medical intervention.

ANS: B REF: p. 23, Section 1.5 Nutrition Assessment
MSC: Knowledge

101. To identify early-stage malnutrition, a health professional would use which of the following parameters?
a. laboratory tests
b. anthropometric data
c. physical exam results
d. dietary intake assessment

ANS: A REF: p. 23, Section 1.5 Nutrition Assessment
MSC: Knowledge

102. Which of the following is an **overt** symptom of iron deficiency?
a. anemia
b. pallor
c. dietary intakes below the EAR
d. decreased red blood cell count

ANS: B REF: p. 23-24, Section 1.5 Nutrition Assessment
MSC: Knowledge

103. Which of the following is a reliable source of information about the diet of Canadians?
a. National Health and Examination Survey
b. Gallop Poll on the Health of Canadians
c. Dietary Reference Intakes
d. Canadian Community Health Survey (2.2)

ANS: D REF: p. 24, Section 1.5 Nutrition Assessment
MSC: Knowledge

104. How are the data from Canadian national nutrition and health measures surveys used?
a. to identify people who need medical treatment
b. to support food marketing
c. to identify leading causes of death
d. to set goals for public health

ANS: D REF: p. 24, Section 1.5 Nutrition Assessment
MSC: Knowledge

105. Which of the following is a national trend in the eating habits of Canadians?
a. We eat larger portions.
b. We snack more frequently on nutrient-dense foods.

c. We eat more high-fibre foods.
d. We eat more family meals.

ANS: A REF: p. 24, Section 1.5 Nutrition Assessment
MSC: Knowledge

106. Which of the following are the top three causes of death in Canada today?
a. cancer, heart disease and diabetes
b. cancer, diabetes and stroke
c. cancer, heart disease and stroke
d. cancer, diabetes and respiratory disease

ANS: C REF: p. 25, Section 1.6-Diet and Health
MSC: Knowledge

107. Of the 10 leading causes of death in Canada, how many are associated directly with nutrition?
a. 4
b. 6
c. 8
d. 10

ANS: A REF: p. 25, Section 1.6-Diet and Health
MSC: Knowledge

108. Which of the following leading causes of death in Canada have the most direct relationship to diet?
a. cancer, heart disease, Alzheimer's disease and kidney disease
b. cancer, heart disease, stroke and kidney disease
c. cancer, heart disease, diabetes mellitus and stroke
d. cancer, heart disease, diabetes mellitus and Alzheimer's disease

ANS: C REF: p. 25, Section 1.6-Diet and Health
MSC: Knowledge

109. Which of the following terms refers to factors that are known to be related to a disease but not proven to be causal?
a. risk factors
b. genetic factors
c. determinants
d. environmental factors

ANS: A REF: p. 25, Section 1.6-Diet and Health
MSC: Knowledge

110. Which of the following statements best reflects the association between obesity and the risk of developing heart disease?
a. All obese individuals will develop heart disease.
b. If obese individuals can reduce their weight, they will not develop heart disease.
c. Physical activity will not reduce the risk of heart disease in an obese individual unless they lose weight.
d. Diet modification can reduce the risk of heart disease in obese individuals even if body weight is unchanged.

ANS: C REF: p. 25, Section 1.6-Diet and Health
MSC: Knowledge

111. Which of the following factors makes the greatest contribution to deaths in Canada?

a. guns
b. alcohol
c. tobacco
d. automobiles

ANS: C REF: p. 25, Section 1.6-Diet and Health
MSC: Knowledge

112. Which of the following changes would be most likely to decrease the risk of chronic disease?
a. maintain a healthy body weight
b. eat a healthy diet
c. participate in regular physical activity
d. avoid alcohol

ANS: B REF: p. 25-26, Section 1.6-Diet and Health
MSC: Application

113. Which professional would be the most appropriate to consult regarding nutrition information?
a. chiropractor
b. medical doctor
c. registered dietitian
d. nutritionist

ANS: C PTS: 1
REF: p. 28-30, Section 1.7-Nutrition Information and Misinformation—On the Net and in the News
MSC: Knowledge

114. Which of the following would best differentiate between a reliable and an unreliable nutrition practitioner?
a. completion of an undergraduate degree in Applied Human Nutrition
b. a graduation diploma from a certified nutrition training program
c. the initials RD, RDN or PDt after their name
d. a PhD degree.

ANS: B PTS: 1
REF: p. 28-31, Section 1.7-Nutrition Information and Misinformation—On the Net and in the News
MSC: Knowledge

115. Which of the following individuals is likely to possess the **highest** amount of nutrition training?
a. Dietetic Technician
b. Public Health Dietitian
c. Certified Nutritionist
d. Medical Doctor

ANS: B PTS: 1
REF: p. 28-31, Section 1.7-Nutrition Information and Misinformation—On the Net and in the News
MSC: Knowledge

116. The web site nutrition_doctor.org describes the benefits of the natural phytochemical supplements they sell for the prevention of cancer. Which statement best appraises this source of information?
a. The information is likely trustworthy because promotion of phytochemical-rich vegetables and fruit is well known advice for cancer prevention.
b. The information is likely not trustworthy because the organization is selling the supplements.
c. The information is likely trustworthy because it is endorsed by a doctor and promotes a

natural product.
d. The information is likely not trustworthy because only registered dietitians are reliable sources of nutrition information.

ANS: B PTS: 1
REF: p. 28-32, Section 1.7-Nutrition Information and Misinformation—On the Net and in the News
MSC: Application

117. Imagine that you read a magazine article about nutrition and are not sure if the information is reliable. Which of the following would raise your concern about poor credibility?
a. The article is written by a PDt.
b. The article is based on a study published in in the Canadian Journal of Dietetic Practice and Research.
c. The magazine is not peer reviewed.
d. The scientific paper cited in the article is very recent.

ANS: C PTS: 1
REF: p. 28-32, Section 1.7-Nutrition Information and Misinformation—On the Net and in the News
MSC: Application

118. For which of the following titles must the individual be university educated and pass a national examination administered by the College of Dietitians?
a. Master of Science in Nutrition
b. Registered Dietitian
c. Certified Nutritionist
d. Certified Dietetic Technician

ANS: B PTS: 1
REF: p. 30-31, Section 1.7-Nutrition Information and Misinformation—On the Net and in the News
MSC: Knowledge

119. Which of the following describes the legal limitations, if any, for a person who disseminates dietary advice to the public?
a. The title “registered dietitian” can be used by anyone who has completed an undergraduate program accredited by Dietitians of Canada.
b. The title “nutritionist” is regulated in all provinces.
c. A license to practice as a dietitian is required by some provinces.
d. Diet counselling is a protected practice of regulated health professionals.

ANS: C PTS: 1
REF: p. 30-33, Section 1.7-Nutrition Information and Misinformation—On the Net and in the News
MSC: Knowledge

120. Which of the following sources of nutrition is most reliable?
a. Who’s Who in Nutrition in Canada
b. E-MD
c. Health Canada
d. The National News

ANS: C PTS: 1
REF: p. 32, Section 1.7-Nutrition Information and Misinformation—On the Net and in the News
MSC: Knowledge

MATCHING

a. 7
b. 16
c. 20
d. 40
e. 100
f. Fat
g. Water
h. Energy
i. Protein
j. Organic
k. Placebo
l. Inorganic
m. Validity
n. Hypothesis
o. Under-nutrition
p. Over-nutrition
q. Anthropometrics
r. Overt deficiency
s. Physical examination
t. Subclinical deficiency

1. Nutrient with the highest body concentration
2. Substance containing no carbon
3. Number of indispensable nutrients for human beings
4. Most substances containing carbon-hydrogen bonds
5. Substance containing nitrogen
6. Energy (kcal) required to increase temperature of 1 kg of water from 0°C to 100°C
7. Nutrient with the highest energy density
8. Energy (kcal) yield of 5 grams of sugar
9. Energy (kcal) yield of 1 gram of alcohol
10. Number of indispensable minerals for human beings
11. An unproven statement
12. An inert medication
13. Possessing the quality of being evidence-based
14. The recommended intake is set at the population mean
15. Excess nutrient intake leads to this
16. Deficient nutrient intake leads to this
17. Measurement of physical characteristics
18. Inspection of skin, tongue, eyes, hair, and fingernails
19. A nutrient deficiency showing outward signs
20. A nutrient deficiency in the early stages

1. ANS: G REF: p. 6
2. ANS: L REF: p. 7
3. ANS: D REF: p. 7
4. ANS: J REF: p. 7
5. ANS: I REF: p. 7
6. ANS: E REF: p. 7
7. ANS: F REF: p. 9
8. ANS: C REF: p. 9

9. ANS: A REF: p. 9
10. ANS: B REF: p. 11
11. ANS: N REF: p. 13
12. ANS: K REF: p. 13
13. ANS: M REF: p. 13
14. ANS: H REF: p. 19
15. ANS: P REF: p. 21
16. ANS: O REF: p. 21
17. ANS: Q REF: p. 22
18. ANS: S REF: p. 23
19. ANS: R REF: p. 23
20. ANS: T REF: p. 23

ESSAY

1. Describe 6 behavioural or social motives governing people's food choices.

   ANS:
   Answers will vary.

   REF: p. 3-6

2. Explain how food choices are influenced by habits, emotions, physical appearance, and ethnic background.

   ANS:
   Answers will vary.

   REF: p. 3-6

3. Discuss some of the consequences of eating in response to emotions.

   ANS:
   Answers will vary.

   REF: p. 4

4. Differentiate an *organic* from an *inorganic* compound. . How do the properties of vitamins relate to their organic nature? Contrast these points with the properties of inorganic compounds such as minerals.

   ANS:
   Answers will vary.

   REF: p. 7, 10-11

5. List the strengths and weaknesses of epidemiological studies, laboratory-based studies, and clinical trials.

   ANS:
   Answers will vary.

REF: p. 12-15

6. Explain the importance of the placebo and the double-blind technique in carrying out research studies.

   ANS:
   Answers will vary.

   REF: p. 15

7. Describe the steps involved in establishing nutrient values that make up the Dietary Reference Intakes.

   ANS:
   Answers will vary.

   REF: p. 17-19

8. Compare and contrast the meaning of Adequate Intakes, Recommended Dietary Allowances, Estimated Average Requirements, and Tolerable Upper Intake Levels for nutrients.

   ANS:
   Answers will vary.

   REF: p. 17-19

9. What approach is taken in setting recommendations for energy intakes? Why is this approach taken? How does this approach differ from that taken for other nutrients?

   ANS:
   Answers will vary.

   REF: p. 19

10. Compare and contrast the rationales underlying dietary recommendations for individuals versus those for populations.

    ANS:
    Answers will vary.

    REF: p. 19-20

11. List and discuss 4 methods commonly used to assess nutritional status of individuals.

    ANS:
    Answers will vary.

    REF: p. 21-24

12. Discuss how the results from national nutrition surveys are used by private and government agencies and groups.

    ANS:
    Answers will vary.

    REF: p. 23-24

13. How did the Canadian Community Health Survey (cycle 2.2) and the Canadian Health Measures Survey differ in the types of nutrition-related information collected?

    ANS:
    Answers will vary.

    REF: p. 24

14. List the national trends of food consumption over the past 40 years.

    ANS:
    Answers will vary.

    REF: p. 25

15. Discuss the meaning and significance of the relationships between risk factors and chronic diseases.

    ANS:
    Answers will vary.

    REF: p. 25-26

16. List ways to identify a reliable nutrition information website.

    ANS:
    Answers will vary.

    REF: p. 28-29, 32

17. A. Explain the education and training requirements associated with obtaining registration as a dietitian.
    B. List several career areas in which registered dietitians are often employed.

    ANS:
    Answers will vary.

    REF: p. 30-32

18. A. List techniques that help identify nutrition quackery.

    ANS:
    Answers will vary.

    REF: p. 32-33