Name:_____ Class:_____ Date:_____

Chapter 1 – Introduction to Sports Nutrition

1. Exercise physiology case best be described as ____.
   a. the art and science of training
   b. the clinical study of mental and physical fatigue
   c. the science of the response and adaptation of bodily systems to the challenges imposed by movement
   d. case study observations of acute and chronic exercise

   *ANSWER:* c

2. Sports nutrition is the ____.
   a. ingestion, digestion, absorption, metabolism, and biochemistry of nutrients
   b. study of weight-loss supplements
   c. science of eating and supplementation
   d. integration and application of scientifically based nutritional and exercise physiology principles that support and enhance training, performance, and recovery

   *ANSWER:* d

3. What is the best definition of exercise?
   a. A planned program of physical activity with the goal of improving or maintaining athletic performance
   b. Planned, structured, repetitive, and purposive physical activity in which improvement or maintenance of fitness is the key
   c. Movement that stresses the cardiovascular system
   d. The capacity to do work

   *ANSWER:* b

4. The term endurance athlete is generally interpreted to mean that the athlete ____.
   a. predominantly uses the oxygen-dependent energy system
   b. trains for many hours
   c. only engages in moderate-intensity activity
   d. does not lift weights as part of training

   *ANSWER:* a

5. Which type of athlete participates in sports to be physically active, to maintain a healthy lifestyle, and for enjoyment?
   a. elite
   b. collegiate
   c. performance-focused recreational
   d. recreational

   *ANSWER:* d

6. Endurance and ultraendurance athletes are concerned about some of the same issues. One of these is adequate ____.
   a. protein intake
   b. anaerobic fitness
   c. carbohydrate and fluid intake
   d. fat intake

   *ANSWER:* c

7. Glycogen is stored in the muscle and ____.
   a. pancreas
   b. bone marrow
   c. kidneys
   d. liver

   *ANSWER:* d

8. Athletes need an adequate protein intake ____.
   a. for growth and repair of tissue
   b. for the replenishment of glycogen
   c. to support a healthy immune system
   d. to minimize dehydration

   *ANSWER:* a

9. Which training principle is based on the idea that individuals may respond and adapt slightly differently, even when exposed to the same training stimulus?
   a. principle of progressive overload
   b. principle of specificity
   c. principle of individuality
   d. principle of hard/easy

   *ANSWER:* c

10. Which training principle is based on the idea that the type of physiological responses and eventual adaptations will be specific to the type of stimulus and stress imposed on the body?
    a. principle of progressive overload
    b. principle of specificity
    c. principle of individuality
    d. principle of hard/easy

    *ANSWER:* b

11. The term macronutrient frequently refers to ____.
    a. any nutrient that provides energy
    b. the eight key nutrients needed for good health
    c. carbohydrates, proteins, and fats
    d. vitamins and minerals

    *ANSWER:* c

12. Training periodization ____.
    a. is always the same to ensure consistency
    b. involves changing the intensity, volume, and specificity of training to achieve specific goals
    c. unplanned and very flexible
    d. based on each athlete's aerobic capacity

    *ANSWER:* b

13. The early focus of nutrition research was on the ____.
    a. type of nutrients that help prevent chronic diseases
    b. amount of nutrients that help prevent chronic diseases
    c. amount and type of nutrients needed to prevent deficiencies
    d. prevention of heart disease

    *ANSWER:* c

14. What are Dietary Reference Intakes (DRI)?
    a. The minimum amount of nutrients needed by an individual each day
    b. The maximum amount of nutrients that should not be exceeded each day
    c. A standard used to assess and plan diets for individuals and groups
    d. Eight key nutrients needed for good health

    *ANSWER:* c

15. An example of an electrolyte is ____.
    a. linoleic acid
    b. potassium
    c. vitamin A
    d. vitamin C

    *ANSWER:* b

16. EAR is ____.
    a. the average daily dietary intake that is sufficient to meet the nutrient requirement of nearly all (97 to 98%) healthy individuals in a particular group according to stage of life and gender
    b. used when an RDA cannot be determined
    c. used to assess dietary adequacy and as the basis for the RDA
    d. the highest daily nutrient intake that is likely to pose no risk of adverse health effects for almost all individuals in the general population

    *ANSWER:* c

17. How does the Recommended Dietary Allowance (RDA) differ from the Adequate Intake (AI)?
    a. AI is not as scientifically strong as it is based on estimates or approximations derived from scientific research.
    b. RDA is a U.S. standard while the AI is an international standard.
    c. RDA values are given for macronutrients while the AI values are given for micronutrients.
    d. RDA is based on a person's age and weight.

    *ANSWER:* a

18. The Tolerable Upper Intake Level (UL) helps people answer which question?
    a. Am I deficient?
    b. Am I consuming enough?
    c. Am I consuming too much?
    d. Do I have the right balance between food and supplements?

    *ANSWER:* c

19. Which statement best describes how the Dietary Reference Intakes (DRI) apply to athletes in training?
    a. The DRI are not applicable to athletes because they were developed for the general population.
    b. Although they were developed for the general population, athletes can use the DRI to assess the adequacy of their diets.
    c. Athletes should add 10% to DRI values to reflect the increased need for nutrients while training.
    d. All of the DRI are applicable to both the general and athletic populations.

    *ANSWER:* b

20. According to the 2010 Dietary Guidelines for Americans, you should consume less than ____ mg per day of dietary cholesterol.
    a. 200
    b. 300
    c. 400
    d. 500

    *ANSWER:* b

21. The Daily Value (DV) is an estimate of the amount needed each day based on a ____ calorie diet.
    a. 1,500
    b. 2,000
    c. 2,500
    d. 3,000

    *ANSWER:* b

22. What is the purpose of the Dietary Guidelines for Americans?
    a. Inform people about ways to treat chronic diseases through diet and exercise.
    b. List the nutrient content of common foods sold in the United States.
    c. Outline daily and weekly diet and exercise programs for weight reduction.
    d. Provide dietary and exercise advice to Americans over the age of 2 that will promote health and reduce the risk for chronic diseases.

    *ANSWER:* d

23. When using the Food Exchange System, food on each list can be "exchanged " for another food on the same list because each has approximately the same ____ content for the portion size listed.
    a. vitamin and mineral
    b. macronutrient
    c. fiber
    d. water

    *ANSWER:* b

24. An intake of 3 to 12 grams of ____ per kilogram (kg) of body weight per day is recommended for athletes.
    a. carbohydrate
    b. protein
    c. fat
    d. fluid

    *ANSWER:* a

25. What are the weakest of all scientific findings?
    a. case studies
    b. epidemiological studies
    c. correlational studies
    d. experimental studies

    *ANSWER:* a

Twenty sprint cyclists were randomly selected to be in a study designed to test the effectiveness of 12 weeks of creatine supplementation on performance. Ten cyclists received a creatine supplement for three months while the other ten received a placebo. The cyclists did not know which supplement they were taking, while the researcher did have this information.

26. This is an example of a(n) ____ study.
    a. case
    b. epidemiological
    c. experimental
    d. clinical

    *ANSWER:* c

27. The study was a(n) ____ study.
    a. randomized
    b. double-blind
    c. crossover
    d. unbiased

    *ANSWER:* a

28. The term level of evidence refers to the ____.
    a. number of peers who reviewed a research study manuscript
    b. number of epidemiological studies conducted on a topic
    c. strength of the study with the largest number of subjects
    d. relative strength or weakness of the current collective body of scientific research

    *ANSWER:* d

29. Extrapolation can lead to erroneous conclusions because ____.
    a. only the original study population was tested directly
    b. causation is reduced to correlation
    c. consensus has not been reached
    d. it increases selection bias

    *ANSWER:* a

30. Most Internet users access ____, and that information can be biased in an effort to increase sales.
    a. government agencies
    b. noncommercial websites
    c. commercial websites
    d. educational institutions

    *ANSWER:* c

31. Which certification requires a bachelor's degree in an allied health field, such as exercise physiology, physical therapy, or nursing?
    a. registered dietitian (RD)
    b. personal trainer
    c. certified athletic trainer (ATC)
    d. clinical exercise specialists

    *ANSWER:* d

32. According to the Physical Activity Guidelines for Americans, children and adolescents should do ____ minutes or more of physical activity daily.
    a. 20
    b. 40
    c. 60
    d. 80

    *ANSWER:* c

33. Which professional is a degreed health and fitness professional qualified to assess, design, and implement individual and group exercise and fitness programs for apparently healthy individuals and individuals with medically controlled diseases?
    a. Certified Personal Trainer
    b. Health Fitness Specialist
    c. Clinical Exercise Specialist
    d. Registered Clinical Exercise Physiologist

    *ANSWER:* b

34. Body fat adds to total body weight, which can be a performance advantage for ____ because it adds mass.
    a. cycling
    b. sprinters
    c. pole vaulters
    d. shot putters

    *ANSWER:* d

35. Which supplements have a link to both food and medications?
    a. herbals
    b. vitamins
    c. minerals
    d. botanicals

    *ANSWER:* d

36. _____ are intended to bring dietary supplement manufacturing standards more in line with pharmaceutical standards.
    a. RDAs
    b. AIs
    c. EARs
    d. GMPs

    *ANSWER:* d

37. Surveys suggest that ____ percent or more of all elite athletes use one or more dietary supplements.
    a. 50
    b. 65
    c. 75
    d. 85

    *ANSWER:* d

38. Which substance is banned in many sports?
    a. creatine
    b. caffeine
    c. omega-3 fatty acids
    d. ephedrine

    *ANSWER:* d

39. General agreement among members of a group is known as ____.
    a. causation
    b. consensus
    c. correlation
    d. anecdotal evidence

    *ANSWER:* b

40. An analysis of a person or a particular situation is known as a(n) ____ study.
    a. case
    b. epidemiological
    c. experimental
    d. mortality

    *ANSWER:* a

41. Sports nutrition is the application of nutrition and exercise physiology principles to support and enhance training, performance, and recovery.
    a. True
    b. False

    *ANSWER:* True

42. Strength athlete is a term commonly used to describe an athlete that primarily depends on anaerobic energy systems.
    a. True
    b. False

    *ANSWER:* True

43. A macrocycle should not be longer than a calendar year.
    a. True
    b. False

    *ANSWER:* False

44. Athletes should adhere to a very rigid eating plan.
    a. True
    b. False

    *ANSWER:* False

45. The RDA are based on the DRI whenever possible.
    a. True
    b. False

    *ANSWER:* False

46. The MyPlate plate is divided into four parts—fruits, vegetables, dairy, and proteins.
    a. True
    b. False

    *ANSWER:* False

47. The Dietary Supplement Health and Education Act (DSHEA) provides a legal definition, labeling guidelines, and ensures the safety and effectiveness of dietary supplements.
    a. True
    b. False

    *ANSWER:* False

48. The National Football League (NFL) and its players association (NFLPA) began a supplement certification program in 2004.
    a. True
    b. False

    *ANSWER:* True

49. Epidemiological studies are used to confirm cause-and-effect relationships.
    a. True
    b. False

    *ANSWER:* False

50. In a crossover study, subjects are in both the treatment and the control groups.
    a. True
    b. False

    *ANSWER:* True

51. A double-blind study is one in which neither the researchers nor the study participants know which group they are in or which treatment they are receiving.
    a. True
    b. False

    *ANSWER:* True

52. Sports nutrition recommendations should be made based on the results of one research study.
    a. True
    b. False

    *ANSWER:* False

53. Anecdotal evidence is based on data obtained from research studies with less than 10 subjects.
    a. True
    b. False

    *ANSWER:* False

54. The conclusions are supported by good evidence, known as a rich body of data in Grade I.
    a. True
    b. False

    *ANSWER:* True

55. Evidence-based sports nutrition recommendations are based primarily on observing the dietary intakes of successful athletes in a given sport.
    a. True
    b. False

    *ANSWER:* False

56. The strength of any scientific recommendation depends on the quality of the research conducted.
    a. True
    b. False

    *ANSWER:* True

57. HONcode is a code of conduct for medical and health websites.
    a. True
    b. False

    *ANSWER:* True

58. Most Internet users access commercial websites, which have higher-quality information because of higher editing standards and the inclusion of more rigorous scientific articles as references.
    a. True
    b. False

    *ANSWER:* False

59. Scope-of-practice definitions help establish professional boundaries and consumers can be assured that practitioners have been properly trained.
    a. True
    b. False

    *ANSWER:* True

60. To be certified by the American College of Sports Medicine as a Personal Trainer, an individual must have an associate's or bachelor's degree in any number of allied health fields.
    a. True
    b. False

    *ANSWER:* False

61. When the term nutritionist is used, it refers to an individual that has a bachelor's degree in nutrition.
    a. True
    b. False

    *ANSWER:* False

62. A Board Certified Specialist in Sports Dietetics (CSSD) is a registered dietitian who has specialized knowledge and experiences in sports nutrition.
    a. True
    b. False

    *ANSWER:* True

63. MNT is nutrition advice that is intended to prevent, treat, or cure a disease or disorder.
    a. True
    b. False

    *ANSWER:* True

64. Anaerobic means "with oxygen."
    a. True
    b. False

    *ANSWER:* False

65. Anaerobic is used in reference to exercise that primarily uses the energy system known as oxidative phosphorylation.
    a. True
    b. False

    *ANSWER:* False

66. A mesocycle is subdivided into time frames called macrocycles.
    a. True
    b. False

    *ANSWER:* False

67. Microcycles are often designed to coincide with the weekly calendar.
    a. True
    b. False

    *ANSWER:* True

68. Osteoporosis is a chronic disease that is a reflection of long-term nutrient intake.
    a. True
    b. False

    *ANSWER:* True

69. The EAR is the highest daily nutrient intake that is likely to pose no risk of adverse health effects for almost all individuals in the general population.
    a. True
    b. False

    *ANSWER:* False

70. According to the Physical Activity Guidelines for Americans, adults should do at least 150 minutes a week of moderate-intensity physical activity.
    a. True
    b. False

    *ANSWER:* True

71. The Swiss Forum for Sport Nutrition has developed a Food Pyramid for Athletes that has been scientifically validated for athletes 20–35 years old, weighing 50–85 kg, who train 5–28 hours per week.
    a. True
    b. False

    *ANSWER:* True

72. Each food listed on the Food Exchange System has the same portion size.
    a. True
    b. False

    *ANSWER:* False

73. Fat intake should be less than 20 percent of total calories.
    a. True
    b. False

    *ANSWER:* False

74. An ACSM Registered Clinical Exercise Physiologist is able to work with people who have cardiovascular, pulmonary, metabolic, immunological, inflammatory, orthopedic, and neuromuscular diseases and conditions.
    a. True
    b. False

    *ANSWER:* True

75. Epidemiological studies can only establish a correlation.
    a. True
    b. False

    *ANSWER:* True

76. The ability to perform endurance-type activities, determined by the heart's ability to provide a sufficient amount of oxygen-laden blood to exercising muscles and the ability of those muscles to take up and use the oxygen is _____.

    *ANSWER:* cardiovascular fitness

77. The main goal for any competitive athlete is to improve _____.

    *ANSWER:* performance

78. The FDA must prove that a supplement is unsafe or _____ before it can be removed from the market.

    *ANSWER:* adulterated

79. The practice of making false claims about health-related products, and some dietary supplements is _____.

    *ANSWER:* quackery

80. The strongest research protocol is a(n) _____, double-blind, placebo-controlled, crossover study performed on humans.

    *ANSWER:* randomized

81. Describe each of the six basic training principles.

    *ANSWER:* Answers will vary.

82. What is the purpose of the Dietary Guidelines? List 10 key recommendations made by the Dietary guidelines for Americans in 2010.

    *ANSWER:* Answers will vary.

83. What are the food and fluid intake recommendations for athletes before, during, and after exercise?

    *ANSWER:* Answers will vary.

84. According to scientific research, which supplements are safe and effective at the recommended doses? How is each effective?

    *ANSWER:* Answers will vary.

85. Explain the peer review process. Why is it important?

    *ANSWER:* Answers will vary.

*Select the key term that is most associated with the description below. Each term is used only once.*

a. Any external influence that may enhance training, recovery, or performance
b. An inactive substance
c. Estimates the amount of certain nutrients needed each day
d. Low blood sodium level
e. An exercise stimulus that is of sufficient magnitude to cause enough stress to warrant long-term changes by the body
f. A degreed health and fitness professional qualified to assess, design, and implement individual and group exercise and fitness programs for apparently healthy individuals and individuals with medically controlled diseases
g. Nutrient needed in relatively large amounts
h. Storage form of glucose in the liver and muscle
i. A substance in solution that conducts an electrical current
j. A training principle that stresses muscles in a manner similar to which they are to perform

k. A wasting or decrease in organ or tissue size
l. A specialized type of athletic training that involves powerful, explosive movements
m. The absolute or relative difficulty of physical activity or exercise
n. The study of health-related events in a population
o. A food containing a relatively high amount of nutrients compared to its caloric content

86. Overload

*ANSWER:* e

87. DV

*ANSWER:* c

88. Hyponatremia

*ANSWER:* d

89. Ergogenic aid

*ANSWER:* a

90. Placebo

*ANSWER:* b

91. HFS

*ANSWER:* f

92. Intensity

*ANSWER:* m

93. Glycogen

*ANSWER:* h

94. Specificity

*ANSWER:* j

95. Atrophy

*ANSWER:* k

96. Plyometric

*ANSWER:* l

97. Electrolyte

*ANSWER:* i

98. Macronutrient

*ANSWER:* g

99. Nutrient dense

*ANSWER:* o

100. Epidemiological study

*ANSWER:* n