

## Study Quiz 6 (Chapters 14, 15, 10)

1. Because the body cannot store water, we can live only about \_\_\_\_\_ days without it.

- A. 2 or 3
- B. 7 or 8
- C. 12 or 13
- D. 15 or 16

2. The human body has more of this substance (by weight) than any other substance.

- A. Protein
- B. Glycogen
- C. Fat
- D. Water**

3. Which of the following fluids would be classified as extracellular fluid?

- A. Tears
- B. Gastrointestinal fluid
- C. Blood plasma
- D. Lymph
- E. All of these choices are accurate.**

4. About 73% of lean muscle tissue is

- A. fat.
- B. water.**
- C. calcium.
- D. sodium.

5. Which of the following nutrients functions as a solvent, thermoregulator, lubricant, and medium for chemical reactions?

- A. Protein
- B. Fat
- C. Water-soluble vitamins
- D. Water**

6. The sodium-potassium pump uses energy to move

- A. potassium ions out of the cell.
- B. sodium ions out of the cell.**
- C. water out of the cell.
- D. water into the cell.

7. The body's temperature regulation mechanism

- A. depends on drinking enough water to remove heat by way of the urine.
- B. depends on water within the body core to absorb heat energy, and carry it to the skin where it will be removed by evaporation.**
- C. depends on water being delivered to the lungs where the heat energy will be exhaled as water vapor.
- D. depends on excretion of body wastes.

8. Total urine production each day is determined by the intake of

A. fluid intake.

B. sodium intake.

C. protein intake.

**D. All of these choices are accurate.**

9. Urea is a major body waste from the

**A. amino groups.**

B. sodium-potassium pump.

C. intracellular fluid.

D. mineral calcium.

10. The loss of up to a liter of water per hour in the feces, is

A. an effective regulatory system, because much heat can be removed by this mechanism.

**B. the result of prolonged severe diarrhea.**

C. the result of prolonged fever.

D. considered to be insensible water loss.

11. The \_\_\_\_\_ control(s) the thirst mechanism.

A. anterior pituitary

B. posterior pituitary

**C. hypothalamus**

D. salivary glands in the mouth

12. Who should be concerned about dehydration?

A. The child who is ill with fever or diarrhea

B. The athlete participating in a vigorous sport

C. The traveler on a long airplane flight

D. The elderly man hospitalized for a broken hip

**E. All of these choices are accurate.**

13. A loss of 1-2% of body weight in fluids will cause a person to

**A. experience thirst.**

B. experience a decline in muscle strength and endurance.

C. decrease heat tolerance and feel weak.

D. lapse into coma and die.

14. When we obtain calcium from a dietary supplement we can reduce the absorption of magnesium and copper from food because

A. calcium interferes with the digestion of trace minerals.

**B. magnesium and copper both have the same valence as the calcium, so there is competition for absorption sites.**

C. excess calcium can destroy the villi of the intestinal tract.

D. excess calcium means the magnesium and copper cannot be solubilized in water.

15. Minerals from animal foods are more available than minerals from plant foods because

A. minerals in animal foods are more concentrated.

B. there is less mineral-binding material in animal foods.

**C. minerals are more bioavailable in animal foods.**

D. All of these choices are accurate.

16. Sodium

A. acts as the principal positively-charged ion in the intracellular fluid.

**B. transmits electrical impulses through nerve cells.**

C. promotes glycolysis.

D. releases energy from ATP.

17. Some North Americans are called "sodium sensitive." For these people, high sodium intake contributes to

A. stomach cancer.

**B. hypertension.**

C. gastrointestinal upsets.

D. serious fluid imbalances.

18. One teaspoon of salt contains about \_\_\_\_\_ of sodium.

A. 500 mg

B. 1000 mg

**C. 2000 mg**

D. 4000 mg

19. Optimal systolic blood pressure is

A. < 150 mm Hg.

**B. < 120 mm Hg.**

C. < 100 mm Hg.

D. < 80 mm Hg.

20. According to FDA labeling rules, the Daily Value for sodium is listed as

A. 7 grams per day.

B. 4 grams per day.

**C. 2.4 grams per day.**

D. 0.5 gram per day.

21. A mineral with a positively charged ion located in the intracellular fluid is

A. sodium.

**B. potassium.**

C. calcium.

D. iron.

22. A meal of dried apricots, whole grain cereals, legumes, and liver provides an abundance of

A. potassium.

B. fiber.

C. beta carotene.

D. vitamin A.

**E. All of these choices are accurate.**

23. Chloride is

**A. a component of hydrochloric acid.**

B. an intracellular fluid ion.

C. a positively charged ion.

D. converted to chlorine in the intestinal tract.

24. The mineral found in the body in the most abundance is

- A. phosphorus.
- B. iron.
- C. calcium.**
- D. sodium.

25. Absorption of dietary calcium in the duodenum is aided by

- A. estrogen.
- B. acidic environment.**
- C. calcitriol.
- D. All of these choices are accurate.

26. Which of the following population groups has the highest rate of calcium absorption?

- A. Postmenopausal women
- B. Pregnant women**
- C. Children during active periods of skeletal growth
- D. Athletes in training

27. Which factor limits absorption of dietary calcium?

- A. Phytic acid
- B. Diarrhea
- C. Tannins in tea
- D. Vitamin D deficiency
- E. All of these choices are accurate.**

28. Hypocalcemic tetany is a muscular condition, which prevents muscles from relaxing. This medical problem may be caused by

- A. inadequate parathyroid hormone release or action.
- B. low blood calcium levels.
- C. failure in nerve transmission.
- D. All of these choices are accurate.**

29. The most nutrient-dense food source of calcium with high bioavailability is

- A. leafy green vegetables.
- B. fish fillets.
- C. milk and milk products.**
- D. cereal grains.
- E. meats.

30. Which of the following foods would provide the greatest amount of calcium per serving?

- A. 1 cup of buttermilk
- B. 2 oz. Swiss cheese**
- C. 3 oz. canned salmon with bones
- D. 1 cup cooked spinach

31. The AI for calcium for adolescents up to the age of 18 is

- A. 800 mg.
- B. 1300 mg.**
- C. 1500 mg.
- D. 2 grams.

32. Phosphorus absorption is promoted by the hormone

A. calcitonin.

B. calcitriol.

**C. cholecalciferol**

D. aldosterone.

33. The RDA for phosphorus is

A. the same as calcium.

B. twice the amount of calcium.

**C. 700 mg/d.**

D. 200 mg/d.

34. Most of our dietary sulfur is supplied by

**A. protein-rich foods.**

B. carbohydrates.

C. vitamins.

D. lipids.

35. A compound composed of calcium and phosphate that is deposited into the bone protein matrix to give it strength and rigidity is called

**A. hydroxyapatite.**

B. fluorapatite.

C. calmodulin.

D. trabecular bone.

36. At the end of long bones, inside the spinal vertebrae, and inside the flat bones of the pelvis, is a spongy type of bone known as

A. osteoclastic bone.

B. osteoblastic bone.

**C. trabecular bone.**

D. compact bone.

37. \_\_\_\_\_ replacement after menopause greatly reduces bone loss in women.

A. Progesterone

B. Calcitriol

**C. Estrogen**

D. Calcitonin

38. A person cannot drink too much water; the kidneys and sweat glands make water excretion quick and efficient, protecting the body from over hydration.

True **False**

39. Many trace minerals have an AI rather than a RDA because

**A. it is difficult to measure trace minerals in humans.**

B. they are of minor nutritional consequence.

C. there are no dietary deficiency diseases associated with a lack of these nutrients.

D. the AIs are easier for scientists to calculate than the RDA.

40. Dietary heme iron is derived from

A. elemental iron in food.

**B. animal flesh.**

C. the type of cookware in which the food is cooked.

D. vegetables.

41. The most common deficiency disease in the world is

A. pernicious anemia.

**B. iron deficiency anemia.**

C. osteoporosis.

D. goiter.

42. Phytic acid and oxalic acid \_\_\_\_\_ iron absorption through the intestinal wall.

A. increase

**B. decrease**

C. have no effect on

43. Which of the following foods provides nonheme iron?

A. Eggs

**B. Spinach**

C. Broccoli

D. Beef liver

E. All of these choices are correct.

44. If the iron carrier in the blood, transferrin, is saturated, dietary iron in the protein-bound form will remain in the intestinal cells. This protein-bound form of intestinal iron is

A. hemosiderin.

B. heme iron.

C. ceruloplasmin.

**D. ferritin.**

E. intestinal iron.

45. Iron is stored in the liver as

A. red blood cells.

B. hemosiderin.

C. apoferritin.

D. ferritin.

**E. hemosiderin and ferritin.**

46. The hemoglobin molecule

A. consists of protein called globin and an iron-containing pigment called heme.

B. carries oxygen from the lungs to the tissues.

C. participates in the removal of CO<sub>2</sub> from the tissues.

**D. All of these choices are accurate.**

47. Most of the iron in the red blood cells is located in the

A. ferritin.

B. myoglobin.

**C. hemoglobin.**

D. cytochromes.

48. A low serum concentration of hemoglobin is most often associated with a deficiency of

- A. zinc.
- B. protein.
- C. copper.
- D. iron.**

49. The life span of a red blood cell is

- A. 20 hours.
- B. 2 days.
- C. 120 hours.
- D. 120 days.**

50. Iron-deficiency anemia can occur after

- A. weight loss.
- B. vigorous exercise.
- C. chronic blood loss.**
- D. None of these choices are accurate.

51. A speedy treatment for iron deficiency anemia is

- A. a diet high in dietary fiber.
- B. a diet high in dietary protein.
- C. administration of ferrous sulfate.**
- D. two eggs for breakfast every morning.

52. The most bioavailable form of dietary iron is

- A. heme iron.**
- B. nonheme iron.
- C. elemental iron.
- D. None of these choices are correct.

53. The best common food source of iron is

- A. raisins.
- B. egg yolks.
- C. red meats.**
- D. whole wheat bread.

54. Iron pots and pans, used in cooking acidic foods, may contribute some \_\_\_\_\_ to the diet.

- A. zinc
- B. iron**
- C. steel
- D. copper
- E. magnesium

55. The RDA for iron for adults is

- A. 0.9 mg for men.
- B. 1.4 mg for women.
- C. 8 mg for men and 18 mg for women.**
- D. 18 mg for both men and women.

56. Hemochromatosis is

A. a type of anemia common to women athletes.

**B. excess absorption of dietary iron.**

C. a type of erythrocyte that carries extra iron.

D. a defect in the formation of the protein, globin, in hemoglobin.

57. The "mucosal block" theory is one explanation of how the body protects itself from excess absorption of dietary

**A. iron.**

B. iodide.

C. chloride.

D. iron and chloride.

58. If large doses of zinc are consumed, the excess is excreted by

A. the kidneys.

B. the pancreas, which secretes it back into the intestinal tract.

C. way of reverse peristalsis. It makes the person very nauseated and causes him/her to vomit.

**D. None of these choices are accurate.**

59. Dietary deficiency of \_\_\_\_\_ is associated with retarded growth and inadequate sexual development in humans.

A. iron

B. iodine

C. selenium

**D. zinc**

60. The RDA for zinc for adults is

A. 11 grams for men and 8 grams for women.

**B. 11 micrograms for men and 8 micrograms for women.**

C. 11 mg for men and 8 mg for women.

D. 11 mg for both men and women.

61. In the United States, zinc deficiency has been observed and treated in groups of middle- and low-income children, correcting which symptom(s)?

A. Megaloblastic anemia

B. Hemolytic anemia

**C. Growth failure and loss of appetite**

D. Respiratory infections

62. Two important neurotransmitters, norepinephrine and dopamine, depend on \_\_\_\_\_ for synthesis.

**A. copper**

B. iron

C. zinc

D. cadmium

63. Symptoms of a copper deficiency in humans include

A. anemia.

B. inadequate growth.

C. decreased numbers of white blood cells.

D. bone loss.

**E. All of these choices are accurate.**



64. The mineral that partly "saves" vitamin E is

A. zinc.

**B. selenium.**

C. chromium.

D. iodide.

65. A deficiency of dietary iodide can cause a

A. disease of the heart muscle.

**B. goiter.**

C. dental cavity.

D. decreased tolerance to insulin.

66. In a situation where there is an insufficient intake of dietary iodide, the thyroid-stimulating hormone promotes the enlargement of the thyroid gland. This condition is called

A. Graves' disease.

**B. goiter.**

C. hyperparathyroidism.

D. cretinism.

67. Thyroxine and other thyroid hormones are synthesized from the amino acid

A. phenylalanine.

B. alanine.

**C. tyrosine.**

D. valine.

68. Cretinism refers to

**A. retarded body growth caused by iodide deficiency.**

B. an enlarged thyroid gland.

C. heart disease.

D. None of these choices are accurate.

69. Goitrogenic foods can inhibit iodide metabolism. Examples of goitrogenic foods are

**A. cabbage, broccoli, and cauliflower.**

B. yogurt, buttermilk, and cheese.

C. chips, olives, and dill pickles.

D. beef, poultry, and fish.

70. The fluoridation of public drinking water is

A. responsible for a 40% to 60% reduction in dental caries in children.

B. more expensive than fluoride mouthwash.

C. not as effective as fluoridated toothpaste.

**D. the cause of tooth mottling.**

71. The role of fluorapatite is to

A. develop alkaline-resistant teeth, which prevents dental caries.

**B. develop acid-resistant teeth, which prevents dental caries.**

C. improve the rate of growth in humans.

D. prevent osteoporosis.

72. In humans, impaired glucose tolerance, elevated serum cholesterol and elevated serum triglycerides are associated with a dietary deficiency in

- A. iron.
- B. manganese.
- C. molybdenum.
- D. chromium.**

73. \_\_\_\_\_ is/are an essential nutrient, but there is no evidence of deficiency symptoms.

- A. Manganese**
- B. Magnesium
- C. Copper
- D. Selenium
- E. Manganese and magnesium

74. Milk is a very good source of iron.

True **False**

75. In the United States, salt can be purchased either with or without fortified iodide.

**True** False

76. When the diet contains more energy than is expended, the excess energy

- A. is stored as fat in adipose tissue.**
- B. increases the thermic effect of food.
- C. increases the basal metabolic rate.
- D. is excreted in the urine.

77. For most adults, the greatest portion of their energy expenditure is for

- A. physical activity.
- B. basal metabolism.**
- C. the thermic effect of food.
- D. None of these choices are accurate.

78. Basal energy needs include energy for

- A. respiration, circulation, and digestion.
- B. respiration, activity, and the thermic effect of food.
- C. circulation, maintenance of muscle tone, and digestion.
- D. respiration, circulation, and maintenance of body temperature.**

79. The energy spent in maintaining all involuntary processes in the body at rest, awake, and in a non-absorptive state is called

- A. voluntary energy.
- B. thermogenesis.
- C. thermic effect.
- D. basal metabolism.**

80. A factor that can decrease BMR is

- A. consuming a low-energy diet.**
- B. having a high fever.
- C. moving from one geographic area to another.
- D. being pregnant.

81. Of the following males, who would have the lowest BMR?

- A. 6-year-old
- B. 16-year-old
- C. 46-year-old
- D. 76-year-old**

82. Consumption of very-low-calorie diets can

- A. increase the BMR about 10% to 20%.
- B. decrease the BMR about 10% to 20%.**
- C. have no effect on the BMR.

83. Direct calorimetry estimates a person's energy expenditure by measuring

- A. oxygen uptake.
- B. oxygen uptake and carbon dioxide production.
- C. carbon dioxide production.
- D. heat production.**

84. To calculate basal energy needs using the Harris-Benedict Equations, one needs information about the individual's

- A. age.
- B. weight.
- C. height.
- D. gender.
- E. All of these choices are accurate.**

85. Hunger can be defined as

- A. starvation.
- B. overwhelming need encouraging one to find and eat food.**
- C. a pleasant sensation prompting one to answer the question, "What do I want to eat?"
- D. psychological forces, which prompt one to eat a certain food because of previous experiences.

86. Which hormone increases in the blood following consumption of a meal?

- A. Cholecystokinin**
- B. Thyroid
- C. Epinephrine
- D. Glucagon

87. A man weighs 154 pounds and is 70 inches tall. His BMI is

- A. 15.
- B. 20.
- C. 22.**
- D. 25.

88. A body mass index of 40 represents

- A. no health risk.
- B. possible health risk.
- C. a high risk for health problems.**
- D. a value that is not on the nomogram.

89. A healthy weight for an individual should not be based exclusively on weight, but on

A. amount of lean body tissue.

B. energy intake versus energy expenditure.

C. body size of family members.

**D. total amount of body fat, location of body fat, and presence or absence of weight-related medical problems.**

90. The thermic effect of food for either a pure protein or a pure carbohydrate diet is higher than the thermic effect of a pure fat diet because it takes

**A. less energy to turn dietary fat into body fat for storage than to convert glucose to glycogen, or to synthesize protein from amino acids.**

B. the body longer to digest protein or carbohydrate foods than foods high in fat.

C. longer to transport amino acids and simple sugars to target tissues than to transport fats.

D. a lot longer to absorb fat-soluble nutrients than water soluble nutrients.

91. When fat distribution in an obese individual is distributed around the abdomen rather than in the buttocks and thighs, this places him or her in the \_\_\_\_\_ category.

**A. android**

B. gynoid

C. leanness

D. None of these choices are accurate.

92. The best eating plan for weight loss is always one that

**A. the person can practice throughout life.**

B. allows the lowest energy intake possible.

C. is strictly structured and provides limited food selection.

D. promotes the greatest weight loss in the shortest possible period of time.

93. Underweight is associated with an increased risk of

A. complications in surgery.

B. slow recovery after illness.

C. a loss of menstrual function.

**D. All of these choices are accurate.**

94. Negative energy balance results from an energy deficit and weight loss occurs.

**True** False

95. The part of our energy expenditure that we have direct control over is voluntary physical activity.

**True** False

96. An underlying hunger for food is never actually absent.

True **False**

97. A person may be classified as overweight according to his BMI but have no excess health risks because of his weight.

**True** False

**98. Ketogenic is**

A. stomach stapling.

B. 400 to 800 kcal/day.

**C. a low-carbohydrate diet that leads to the production of ketones.**

D. the surgical removal of body fat.

E. physical conditioning.

