Test Bank for Anatomy and Physiology Foundations for the Health Professions 1st Edition Roiger 0073402125 9780073402 123

Multiple Choice Questions

1. Which of the following lists the levels of organization of the human body in the correct order?
A. chemical level, organelle level, cellular level, tissue level, organ level, systems level, organism level
B. chemical level, tissue level, organ level, systems level, organelle level, cellular level, organism level
C. organelle level, chemical level, cellular level, tissue level, organ level, systems level, organism level
D. chemical level, organelle level, cellular level, tissue level, organism level, organ level, systems level

2. The chemical level of organization includes all of the following concepts except which one?
A. The study of water
B. The study of body structures and organs
C. The study of atoms and how they form bonds
D. The study of organic molecules

3. The organelle level of organization includes which of the following concepts?
A. The study of organ systems working together to create organisms
B. The study of body structures and organs
C. The study of atoms and how they form bonds
D. The study of cellular organelles and how they work together in a living cell

4. All of the following are a level of organization in the human body except which one?
A. Organs
B. Cells C.
Atoms D.
Tissues

5. What is matter?
A. Anything that takes up space.
B. Anything that has mass.
C. Anything that takes up space and has mass.
D. Everything is composed of matter.

6. All of the following items are composed of matter except which one?
A. All of the answer choices have matter.
B. The air we breathe
C. The steam formed from boiling water
D. The fumes emitted from a vehicle

7. What is the purest form of matter?
A. Atom
B. Element
C. Molecule
D. Ion

8. Which forms of an element can be used as a diagnostic tool?
A. Isotopes
B. Radioisotopes
C. Atomic isotopes
D. Radioactive

9. Which of the following is found orbiting the atom?
A. Proton
B. Neutron
C. Electron
D. Nucleus

10. Which of the following correctly describes the atomic number?
A. The combined number of protons and neutrons
B. The number of protons
C. The number of electrons
D. The combined number of protons and electrons

11. Which of the following types of bonding is characterized by two or more atoms sharing electrons to fill their outer shells?
A. Ionic bond
B. Covalent bond
C. Charged bond
D. Hydrogen bond

12. Sodium chloride is formed by joining a sodium and chlorine molecule in what type of bond?
A. Ionic bond
B. Covalent bond
C. Charged bond
D. Hydrogen bond

13. All of the following statements describe functions of water except which one?
A. Water chemically bonds molecules to form electrolytes.
B. Water works as a lubricant in tears and the fluid of joints.
C. Water aids in chemical reactions as in saliva during digestion.
D. Water is used to transport nutrients and wastes in blood plasma.

14. Which statement correctly describes a hypertonic solution when compared to another solution?
A. The solution is more concentrated with solutes than the other solution.
B. The solution has the same concentration of solutes as the other solution.
C. The solution is less concentrated with solutes than the other solution.
D. The solution is less concentrated with solvent than the other solution.

15. What is an acid?
A. A molecule with a pH of 7
B. A molecule that releases hydroxide ions when added to water
C. A molecule that releases hydrogen atoms when added to water
D. A molecule with a pH higher than 7

16. What is a base?
A. A molecule with a pH of 7
B. A molecule that releases hydroxide ions when added to water
C. A molecule that releases hydrogen atoms when added to water
D. A molecule with a pH less than 7

17. If a solution has a pH of 12, which of the following statement is incorrect?
A. The solution is a base.
B. The solution will release hydroxide ions when added to water.
C. The solution is alkaline.
D. The solution will release hydrogen atoms when added to water.

18. What condition results if the blood's pH is less than 7.35?
A. Acidosis
B. Alkalosis
C. Acidic
D. Alkaline

19. What are the four types of organic molecules?
A. Glucose, proteins, lipids, nucleic acids
B. Carbohydrates, proteins, lipids, nucleic acids
C. Monosaccharides, proteins, lipids, nucleotides
D. D.Carbohydrates, amino acids, lipids, nucleic acids

20. All of the following are examples of the function of proteins except:
A. Transport
B. Strength
C. Fight foreign invaders
D. Store energy

21. Which organic molecules are responsible for composing DNA as the genetic material of the cell?
A. Proteins
B. Lipids
C. Nucleic Acids
D. Carbohydrates

22. What are the building blocks of proteins?
A. Monosaccharide
B. Amino acid
C. Nucleotide
D. Glycerol

23. Which of the following is an example of the function of lipids?
A. Genetic material
B. Transport
C. Fight foreign invaders
D. Store energy

24. Carbohydrates contain carbon, hydrogen, and oxygen in which of the following ratios?
A. 1:1:1
B. 2:1:2
C. 1:2:1
D. 2:1:1

25. What is metabolism?
A. The speed of chemical reactions in a human body
B. The sum total of all chemical reactions in the human body
C. The temperature of chemical reactions in the human body
D. The concentration of reactants in chemical reactions within the human body

26. What governs the speed of a reaction?
A. The concentration of reactants
B. The temperature of the reaction
C. The presence of a catalyst
D. All of these are correct.

27. Why does the human body use cellular respiration?
A. To release energy within the bonds of the glucose molecule
B. To create carbon dioxide
C. To produce water
D. To allow us to breathe

28. What is ATP?
A. A usable form of energy for the cell
B. A modified glucose molecule
C. The waste product produced by cellular respiration
D. Adenosine diphosphate

29. Which organelle regulates what enters and exits the cell?
A. Cell membrane
B. Golgi complex
C. Lysosomes
D. Nucleus

30. Which organelle is responsible for assembling amino acids into proteins?
A. Cell membrane
B. Golgi complex
C. Lysosomes
D. Ribosomes

31. Which organelle is responsible for carrying out cellular respiration?
A. Cell membrane
B. Golgi complex
C. C.Mitochondria
D. Ribosomes

32. All of the following organelles play a part in synthesizing and processing proteins except which one?
A. Mitochondria
B. Golgi complex
C. Endoplasmic reticulum
D. Ribosomes

33. The cell membrane performs all of the following functions except which one?
A. Gives the cell structure
B. Regulates what enters and exits the cell
C. Defines the cell's intracellular and extracellular environment
D. Houses DNA

34. The phospholipids in the cell membrane are composed of what?
A. Transport proteins
B. Hydrophilic tails
C. Hydrophobic heads
D. Hydrophobic tails and hydrophilic heads

35. The cell membrane contains all of the following except:
A. phospholipid.
B. secretory vesicle.
C. cholesterol.
D. channels.

36. Which of the following correctly describes passive transport?
A. Transport of materials across the cell membrane
B. Transport of materials across the cell membrane up the concentration gradient
C. Transport of materials across the cell membrane with the use of energy
D. Transport of materials across the cell membrane without the use of energy

37. Which statement correctly compares passive and active transport?
A. Passive transport move materials across the cell membrane without the use of energy while active transport move materials across the cell membrane against the concentration gradient with the use of energy.
B. Passive transport move materials across the cell membrane with the use of energy while active transport move materials across the cell membrane against the concentration gradient without the use of energy.
C. Passive transport move materials across the cell membrane with the use of energy while active transport move materials across the cell membrane against the concentration gradient with the use of energy.
D. Passive transport move materials across the cell membrane without the use of energy while active transport move materials across the cell membrane against the concentration gradient without the use of energy.

38. Which of the following types of transport require energy?
A. Filtration
B. Facilitated diffusion
C. Active
D. Osmosis

39. All of the following are types of passive transport except which one?
A. Filtration
B. Endocytosis
C. Osmosis
D. Simple diffusion

40. What is osmosis?
A. Diffusion across a semi-permeable membrane until concentrations are equal on either side of the membrane
B. Diffusion across a semi-permeable membrane against the concentration gradient
C. Diffusion across a semi-permeable membrane from areas of low concentration to high concentration
D. Diffusion across a semi-permeable membrane

41. Which statement incorrectly describes active transport?
A. Transport of materials from areas of low concentration to areas of high concentration
B. Movement of materials up the concentration gradient
C. Transport of materials across the cell membrane with the use of energy
D. Transport of materials from areas of high concentration to areas of low concentration

42. The sodium/potassium pump is an example of what type of transport?
A. Filtration
B. Facilitated diffusion
C. Active
D. Osmosis

43. Which type of transport moves materials in bulk out of the cell?
A. Exocytosis
B. Endocytosis
C. Active transport
D. Passive transport

44. Which statement correctly describes endocytosis?
A. The movement of materials in bulk out of the cell
B. The movement of materials in bulk into the cell
C. The passive movement of materials out of the cell
D. The movement of small molecules out of the cell

45. Protein synthesis involves which two stages?
A. Active and passive transport
B. Endocytosis and exocytosis
C. Osmosis and diffusion
D. Transcription and translation

46. All of the following are examples of a strand of mRNA except which one?
A. AGCCACGTCTTGGCA
B. AGUAGCCGUCAAAA
C. CCUAGACAGUCGCU
D. AGUAGCACGCGAAU

47. ACGUUGCACGU represents what kind of strand?
A. DNA
B. mRNA
C. rRNA
D. tRNA

48. Which of the following incorrectly describes transcription?
A. The stage of protein synthesis that reads the mRNA strand and assembles a protein based on the sequence of codons present on the mRNA strand
B. The stage of protein synthesis that creates the mRNA strand
C. The stage of protein synthesis that occurs in the nucleus
D. The stage of protein synthesis that creates mRNA molecule from DNA

49. Which of the following stages of protein synthesis reads the mRNA strand and assembles a protein based on the sequence of codons present on the mRNA strand?
A. Transcription
B. Translation
C. Ribosomes
D. Transfer

50. Which of the following has the sequence of events in protein synthesis in the correct order?
A. Transcription, translation, inspection of protein by the Golgi complex, protein packaged in secretory vesicle, protein exocytosed from cell
B. Inspection of protein by the Golgi complex, transcription, translation, protein packaged in secretory vesicle, protein exocytosed from cell
C. Translation, inspection of protein by the Golgi complex, transcription, protein packaged in secretory vesicle, protein exocytosed from cell
D. Transcription, translation, inspection of protein by the Golgi complex, protein exocytosed from cell, protein packaged in secretory vesicle

51. Which of the statements is incorrect regarding mistakes in protein synthesis?
A. A mistake in protein synthesis will always result in catastrophic consequences.
B. A mistake in protein synthesis could result in an incorrect protein being made.
C. A mistake in protein synthesis can result in the correct protein being made.
D. Mistake in protein synthesis can have no consequence.

52. Which statement best describes meiosis?
A. Meiosis is a type of cell division that involves all cell types in the human body.
B. Meiosis is a type of cell division that involves sperm and egg cells.
C. Meiosis is a type of cell division that involves all cell types except sperm and egg cells.
D. Meiosis is a type of cell division.

53. Which of the following statements best describes mitosis?
A. Mitosis is a type of cell division that involves all cell types in the human body.
B. Mitosis is a type of cell division that involves sperm and egg cells.
C. Mitosis is a type of cell division that involves all cell types except sperm and egg cells.
D. Mitosis is a type of cell division.

54. Which of the following statements correctly describes the parent cell and daughter cells in mitosis?
A. In mitosis, the parent cell divides to become two identical daughter cells.
B. In mitosis, the parent cell divides to become two different daughter cells.
C. In mitosis, the parent cell divides to become one identical daughter cell.
D. In mitosis, the parent cell divides to become two identical sex cells.

55. Which statement correctly compares chromatin to chromosomes?
A. Chromatin is loosely arranged DNA in the cell's nucleus while the cell is not dividing while chromosomes are tight compact bundles of DNA present during cell division.
B. Chromatin is tightly packed DNA in the cell's nucleus while the cell is not dividing while chromosomes are also tight compact bundles of DNA present during cell division.
C. Chromatin is loosely arranged DNA in the cell's nucleus while the cell is dividing while chromosomes are tight compact bundles of DNA present while the cell is not dividing.
D. Chromatin is tightly packed DNA in the cell's nucleus while the cell is not dividing while chromosomes are loosely arranged bundles of DNA present during cell division.

56. How many chromosomes does the resulting daughter cell have after mitosis?
A. 12
B. 23
C. 46
D. 92

57. All of the following statements describe the consequences of mutations in DNA replication except which one?
A. The mutation can benefit the cell.
B. The mutation can be detrimental to the cell.
C. The mutation will be passed to future daughter cells.
D. There is no mechanism for proofreading DNA replication in order to avoid mutations.

58. What is telomerase?
A. An enzyme present in cancer cells that repairs telomere damage during replication making the cancer cell immortal
B. An enzyme present in normal cells that repairs telomere damage during replication making the normal cell immortal
C. An enzyme present in normal cells that repairs telomere damage during replication
D. An enzyme present in cancer cells that repairs telomere damage during replication making the cancer cell die

59. Which statement correctly represents the function of telomeres?
A. Telomeres are protective caps on the ends of chromosomes that help stabilize them.
B. Telomeres are protective caps on the ends of chromosomes that help them replicate.
C. Telomeres are protective caps on the ends of chromosomes that the cell age.
D. Telomeres are protective caps on the ends of chromosomes that allow the chromosome to stick to other chromosomes.

60. What is histology?
A. The study of tissues
B. The study of the human body
C. The study of the history of anatomy
D. The study of physiology

61. All of the following are tissue classifications except which one?
A. Epithelial
B. Muscle
C. Neurons
D. Connective

62. Which of the following statements correctly describes epithelial tissue?
A. Epithelial tissues cover and line all body surfaces including organs, vessels, and ducts.
B. Epithelial tissues allow for movement of the body.
C. Epithelial tissues have fibers in a matrix.
D. Epithelial tissues allow for communication within the body by using electrical and chemical signals.

63. Which of the following statements correctly describes muscle tissue?
A. Tissue that lines and covers all body surfaces
B. Tissue that allows for communication through chemical and electrical signals
C. Tissue that allows movements through the contraction of cells
D. Tissue that has cells and fibers in a matrix

64. Which of the following statements correctly describes connective tissue?
A. Tissue that lines and covers all body surfaces
B. Tissue that allows for communication through chemical and electrical signals
C. Tissue that allows movements through the contraction of cells
D. Tissue that has cells and fibers in a matrix

65. Which of the following statements correctly describes nervous tissue?
A. Tissue that lines and covers all body surfaces
B. Tissue that allows for communication through chemical and electrical signals
C. Tissue that allows movements through the contraction of cells
D. Tissue that has cells and fibers in a matrix

66. Which of the following is a function of nervous tissue?
A. Movement
B. Communication
C. Structural support
D. Protection

67. Which of the following is a function of connective tissue?
A. Movement
B. Communication
C. Structural support
D. Coverage

68. Which of the following is a function of muscle tissue?
A. Movement
B. Communication
C. Structural support
D. Coverage

69. Which of the following is a function of epithelial tissue?
A. Movement
B. Communication
C. Structural support
D. Coverage

70. Which of the following is not a shape of an epithelial cell?
A. Cuboidal
B. Squamous
C. Columnar
D. Stratified

71. Which of the following is a correct statement about cardiac muscle?
A. Cardiac muscle cells are branched and multinucleated.
B. Cardiac muscle is striated and voluntary.
C. Cardiac muscle is smooth and involuntary.
D. Cardiac muscle is striated and involuntary.

72. Which of the following statements correctly compares skeletal muscle and smooth muscle?
A. Skeletal muscle is striated and voluntary while cardiac muscle is striated and involuntary.
B. Skeletal muscle is smooth and voluntary while cardiac muscle is striated and involuntary.
C. Skeletal muscle is striated and voluntary while cardiac muscle is striated and voluntary.
D. Skeletal muscle is striated and involuntary while cardiac muscle is smooth and involuntary.

73. Which answer choice is not considered a type of connective tissue?
A. Bone
B. Blood C.
Muscle D.
Cartilage

74. Which term describes a stacked layer of epithelial cells?
A. Simple
B. Stratified
C. Pseudostratified
D. Transitional

75. The respiratory track is lined with which tissue type?
A. Muscle
B. Connective
C. Epithelial
D. Nervous

76. Which of the following correctly describes transitional epithelial tissue?
A. A single layer of epithelial cells
B. Stacked layers of epithelial cells
C. Epithelial tissue designed to stretch
D. Epithelial tissue appears to be layered

77. Which connective tissue type functions in storing lipids?
A. Blood
B. Bone
C. Adipose
D. Cartilage

78. What type of cartilage is found in the ear?
A. Hyaline cartilage connective tissue
B. Elastic cartilage connective tissue
C. Fibrocartilage connective tissue
D. Fibroelastic cartilage connective tissue

79. What type of cartilage is found in the nose?
A. Hyaline cartilage connective tissue
B. Elastic cartilage connective tissue
C. Fibrocartilage connective tissue
D. Fibroelastic cartilage connective tissue

80. Which of the following is not one of the three types of cartilage?
A. Hyaline cartilage connective tissue
B. Elastic cartilage connective tissue
C. Fibrocartilage connective tissue
D. Fibroelastic cartilage connective tissue

81. What is the function of neuroglia?
A. Communication
B. Protection and support
C. Movement
D. Coverage

82. Which statement describes hypertrophy?
A. Tissue growth is achieved by an increase in the number of cells.
B. Tissue growth is achieved by an increase in cell size.
C. Tissue growth is achieved by a decrease in the number of cells.
D. Tissue growth is achieved by a decrease in cell size.

83. Which statement describes hyperplasia?
A. Tissue growth is achieved by an increase in the number of cells.
B. Tissue growth is achieved by an increase in cell size.
C. Tissue growth is achieved by a decrease in the number of cells.
D. Tissue growth is achieved by a decrease in cell size.

84. What is neoplasia?
A. Tissue growth is achieved by an increase in the number of cells.
B. Tissue growth is achieved by an increase in cell size.
C. Controlled cell growth.
D. Uncontrolled cell growth.

85. Which of the following incorrectly describes a benign neoplasm?
A. A neoplasm that remains localized
B. A neoplasm that is encapsulated
C. A neoplasm that does not metastasize
D. A neoplasm in which cells have broken off and traveled to other parts of the body where they are producing more abnormal cells

86. Which of the following correctly describes a malignant neoplasm?
A. A neoplasm that remains localized
B. A neoplasm that is encapsulated
C. A neoplasm that does not metastasize
D. A neoplasm in which cells have broken off and traveled to other parts of the body where they are producing more abnormal cells

87. What describes the change of tissue from one type to another?
A. Neoplasia
B. Hyperplasia
C. Metaplasia
D. Cytoplasia

88. Which term refers to shrinkage of tissue due to a decrease in cell size?
A. Atrophy
B. Necrosis
C. Hypertrophy
D. Apoptosis

89. What is programmed cell death?
A. Atrophy
B. Necrosis
C. Hypertrophy
D. Apoptosis

90. Which answer choice refers to premature tissue death caused by disease, infection, toxins or trauma?
A. Atrophy
B. Necrosis
C. Hypertrophy
D. Apoptosis

91. Which statement correctly compares necrosis and apoptosis?
A. Necrosis is premature tissue death caused by disease, infection, toxins or trauma, and apoptosis is programmed cell death.
B. Necrosis is prolonged tissue death caused by disease, infection, toxins or trauma, and apoptosis is programmed cell death.
C. Necrosis is programmed tissue death caused by disease, infection, toxins or trauma, and apoptosis is programmed cell death.
D. Necrosis is premature tissue death caused by diseases, infection, toxins or trauma, and apoptosis is premature cell death.

92. What causes gangrene?
A. Insufficient blood supply
B. The formation of neoplasms
C. The presence of infection
D. Insufficient blood supply that is associated with an infection

93. Infarction is defined as:
A. programmed cell death.
B. premature death of tissue.
C. sudden blood loss.
D. sudden tissue death resulting from the loss of blood supply.

94. What is the function of apoptosis?
A. Programmed cell death
B. To remove old, worn out cells
C. To remove cells that have fulfilled their function and are no longer needed
D. All of these are correct.

95. What is cancer?
A. Programmed cell death
B. Uncontrolled growth of tissue forming neoplasms
C. Hyperplasia
D. Hypertrophy

96. What are environmental factors that can cause cancer?
A. Oncogenes
B. Carcinogenes
C. Neoplasms
D. Mutations

97. What kind of cancer originates in connective tissue or muscle tissue?
A. Carcinoma
B. Sarcoma
C. Lymphomas
D. Leukemia

98. What organ system is responsible for gas exchange, sense of smell, and creating pressure gradients necessary to circulate blood and lymph?
A. Cardiovascular system
B. Nervous system
C. Respiratory system
D. Lymphatic system

99. What organ system is responsible for fluid balance, immunity, and lipid absorption, and defense against disease?
A. Cardiovascular system
B. Nervous system
C. Respiratory system
D. Lymphatic system

100. What organ system is responsible for communication and hormone production?
A. Cardiovascular system
B. Nervous system
C. Endocrine system
D. Lymphatic system

101. Which organ system does not function in some type of communication within the human body?
A. Muscular system
B. Nervous system
C. Endocrine system
D. Lymphatic system

102. What organ system is responsible for movement, stability, control of body openings and passages, communication and heat production?
A. Cardiovascular system
B. Nervous system
C. Endocrine system
D. Muscular system

Multiple Choice Questions

1. (p. 23) Which of the following lists the levels of organization of the human body in the correct order?
A. chemical level, organelle level, cellular level, tissue level, organ level, systems level, organism level
B. chemical level, tissue level, organ level, systems level, organelle level, cellular level, organism level
C. organelle level, chemical level, cellular level, tissue level, organ level, systems level, organism level
D. chemical level, organelle level, cellular level, tissue level, organism level, organ level, systems level

The human body is organized using a hierarchy of levels that starts from the simplest to most complex. Those levels are: chemical level, organelle level, cellular level, tissue level, organ level, systems level, organism level.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.1 List the levels of organization of the human body from simplest to most complex.

2. (p. 24) The chemical level of organization includes all of the following concepts except which one?
A. The study of water
B. The study of body structures and organs
C. The study of atoms and how they form bonds
D. The study of organic molecules

The chemical level of organization includes many chemistry concepts, including: atoms and how they bond to form molecules, water and how it is the basis for solutions in the body, acids and bases and how these are measured by pH, organic molecules and their importance in the body, and chemical reactions, like cellular respiration.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.1 List the levels of organization of the human body from simplest to most complex.

3. (p. 23) The organelle level of organization includes which of the following concepts?
A. The study of organ systems working together to create organisms
B. The study of body structures and organs
C. The study of atoms and how they form bonds
D. The study of cellular organelles and how they work together in a living cell

The organelle level of organization includes many concepts about cellular organelle structure and function including how they work together to accomplish the actions necessary for a cell to maintain life.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.1 List the levels of organization of the human body from simplest to most complex.

4. (p. 23) All of the following are a level of organization in the human body except which one?
A. Organs
B. Cells
C. Atoms
D. Tissues

Atoms and how they bond to form molecules is one of the concepts of the chemical level of organization in the human body.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.1 List the levels of organization of the human body from simplest to most complex.

5. (p. 24) What is matter?
A. Anything that takes up space.
B. Anything that has mass.
C. Anything that takes up space and has mass.
D. Everything is composed of matter.

All solids, liquids and gases are composed of matter. Matter is defined as anything that takes up space and has mass.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.2 Define the terms matter, element, atom, and isotope.

6. (p. 23) All of the following items are composed of matter except which one?
A. All of the answer choices have matter.
B. The air we breathe
C. The steam formed from boiling water
D. The fumes emitted from a vehicle

All solids, liquids and gases are composed of matter. Matter is defined as anything that takes up space and has mass.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.2 Define the terms matter, element, atom, and isotope.

7. (p. 23) What is the purest form of matter?
A. Atom
B. Element
C. Molecule
D. Ion

An element is the purest form of matter.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.2 Define the terms matter, element, atom, and isotope.

8. (p. 25) Which forms of an element can be used as a diagnostic tool?
A. Isotopes
B. Radioisotopes
C. Atomic isotopes
D. Radioactive

Some isotopes are unstable and freely emit particles to get to a more stable form. If they do, they are called radioisotopes and their decay, called radioactivity, can be very useful in medicine for diagnosis and treatment.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.2 Define the terms matter, element, atom, and isotope.

9. (p. 24) Which of the following is found orbiting the atom?
A. Proton
B. Neutron
C. Electron
D. Nucleus

Electrons orbit the atom, while protons and neutrons are found in the atom's nucleus.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.2 Define the terms matter, element, atom, and isotope.

10. (p. 24) Which of the following correctly describes the atomic number?
A. The combined number of protons and neutrons
B. The number of protons
C. The number of electrons
D. The combined number of protons and electrons

The number of protons for each element is fixed and is indicated by the atomic number. The atomic mass is the combined number of protons and neutrons.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
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11. (p. 25) Which of the following types of bonding is characterized by two or more atoms sharing electrons to fill their outer shells?
A. Ionic bond
B. Covalent bond
C. Charged bond
D. Hydrogen bond

Covalent bonds are formed when two or more atoms share electrons to fill their outer shells. Ionic bonds are formed when two or more atoms give up or receive electrons to fill their outer shells.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.3 Define molecule, and describe two methods of bonding that may form molecules.

12. (p. 25) Sodium chloride is formed by joining a sodium and chlorine molecule in what type of bond?
A. Ionic bond
B. Covalent bond
C. Charged bond
D. Hydrogen bond

Sodium (Na) and chlorine (Cl) atoms typically form an ionic bond. The sodium atom, which gives up an electron, becomes positively charged, while the chlorine atom, which receives an electron, becomes negatively charged.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.3 Define molecule, and describe two methods of bonding that may form molecules.

13. (p. 27) All of the following statements describe functions of water except which one?
A. Water chemically bonds molecules to form electrolytes.
B. Water works as a lubricant in tears and the fluid of joints.
C. Water aids in chemical reactions as in saliva during digestion.
D. Water is used to transport nutrients and wastes in blood plasma.

Water carries out the following five functions for the body as the main component of many body fluids: Water chemically separates ionically-bonded molecules to individual ions called electrolytes; works as a lubricant in tears and the fluid of joints; aids in chemical reactions as in saliva during digestion; transports nutrients and wastes in blood plasma; and is used for temperature regulation.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.4 Summarize the five functions of water in the human body and give an explanation or example of each.

14. (p. 27) Which statement correctly describes a hypertonic solution when compared to another solution?
A. The solution is more concentrated with solutes than the other solution.
B. The solution has the same concentration of solutes as the other solution.
C. The solution is less concentrated with solutes than the other solution.
D. The solution is less concentrated with solvent than the other solution.

If a solution is hypertonic, it is more concentrated with solutes than the other solution.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Analyzing
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Hard
Learning outcome: 2.5 Compare solutions based on tonicity.

15. (p. 28) What is an acid?
A. A molecule with a pH of 7
B. A molecule that releases hydroxide ions when added to water
C. A molecule that releases hydrogen atoms when added to water
D. A molecule with a pH higher than 7

An acid is a molecule that releases a hydrogen ion when added to water. A base is a molecule that will accept the hydrogen ion, often by releasing a hydroxide ion when added to water. Acids have a pH less than 7. Bases have a pH greater than 7.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.6 Determine if a substance is an acid or a base, and its relative strength if given its pH.

16. (p. 28) What is a base?
A. A molecule with a pH of 7
B. A molecule that releases hydroxide ions when added to water
C. A molecule that releases hydrogen atoms when added to water
D. A molecule with a pH less than 7

An acid is a molecule that releases a hydrogen ion when added to water. A base is a molecule that will accept the hydrogen ion, often by releasing a hydroxide ion when added to water. Acids have a pH less than 7. Bases have a pH greater than 7.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.6 Determine if a substance is an acid or a base, and its relative strength if given its pH.

17. (p. 29) If a solution has a pH of 12, which of the following statement is incorrect?
A. The solution is a base.
B. The solution will release hydroxide ions when added to water.
C. The solution is alkaline.
D. The solution will release hydrogen atoms when added to water.

A solution with a pH of 12 is considered a base or alkaline and will release hydroxide ions when added to water.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Analyzing
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Hard
Learning outcome: 2.6 Determine if a substance is an acid or a base, and its relative strength if given its pH.

18. (p. 29) What condition results if the blood's pH is less than 7.35?
A. Acidosis
B. Alkalosis
C. Acidic
D. Alkaline

A blood pH of less than 7.35 is considered acidosis and a blood pH of greater than 7.45 is considered alkalosis.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.6 Determine if a substance is an acid or a base, and its relative strength if given its pH.

19. (p. 30) What are the four types of organic molecules?
A. Glucose, proteins, lipids, nucleic acids
B. Carbohydrates, proteins, lipids, nucleic acids
C. Monosaccharides, proteins, lipids, nucleotides
D. D.Carbohydrates, amino acids, lipids, nucleic acids

Carbohydrates, proteins, lipids,and nucleic acids are the four organic molecules. Monosaccharides, amino acids and nucleotides are building block of carbohydrates, proteins and nucleic acids.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.7 Describe the four types of organic molecules in the body by giving: the elements present in each, their building blocks, an example of each, where the example is found in the body, and the example's function.

20. (p. 30) All of the following are examples of the function of proteins except:
A. Transport
B. Strength
C. Fight foreign invaders
D. Store energy

Proteins do not store energy, carbohydrates and lipids store energy.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.7 Describe the four types of organic molecules in the body by giving: the elements present in each, their building blocks, an example of each, where the example is found in the body, and the example's function.

21. (p. 30) Which organic molecules are responsible for composing DNA as the genetic material of the cell?
A. Proteins
B. Lipids
C. Nucleic Acids
D. Carbohydrates

DNA is the genetic material of the cell and it is composed of nucleic acids.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.7 Describe the four types of organic molecules in the body by giving: the elements present in each, their building blocks, an example of each, where the example is found in the body, and the example's function.

22. (p. 30) What are the building blocks of proteins?
A. Monosaccharide
B. Amino acid
C. Nucleotide
D. Glycerol

Proteins are built from 20 different amino acids. Monosaccharides build carbohydrates, glycerol and fatty acids build lipids, and nucleotides build nucleic acids.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.7 Describe the four types of organic molecules in the body by giving: the elements present in each, their building blocks, an example of each, where the example is found in the body, and the example's function.

23. (p. 30) Which of the following is an example of the function of lipids?
A. Genetic material
B. Transport
C. Fight foreign invaders
D. Store energy

Lipids store energy, regulate the body, give structure to the cell, and regulate what goes in and out.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.7 Describe the four types of organic molecules in the body by giving: the elements present in each, their building blocks, an example of each, where the example is found in the body, and the example's function.

24. (p. 30) Carbohydrates contain carbon, hydrogen, and oxygen in which of the following ratios?
A. 1:1:1
B. 2:1:2
C. 1:2:1
D. 2:1:1

Carbohydrates contain carbon, hydrogen and oxygen in a 1:2:1 ratio.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.7 Describe the four types of organic molecules in the body by giving: the elements present in each, their building blocks, an example of each, where the example is found in the body, and the example's function.

25. (p. 33) What is metabolism?
A. The speed of chemical reactions in a human body
B. The sum total of all chemical reactions in the human body
C. The temperature of chemical reactions in the human body
D. The concentration of reactants in chemical reactions within the human body

Metabolism is defined as the sum of all chemical reactions that occur in the human body. Metabolism is affected by concentration of reactants, temperature, and the presence of catalysts.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.8 Explain three factors governing the speed of chemical reactions.

26. (p. 33) What governs the speed of a reaction?
A. The concentration of reactants
B. The temperature of the reaction
C. The presence of a catalyst
D. All of these are correct.

The speed of a reaction is governed by concentration of reactants, temperature, and whether a catalyst is present.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.8 Explain three factors governing the speed of chemical reactions.

27. (p. 34) Why does the human body use cellular respiration?
A. To release energy within the bonds of the glucose molecule
B. To create carbon dioxide
C. To produce water
D. To allow us to breathe

The purpose of cellular respiration is to release the energy within the bonds of glucose. We breathe so that we can perform cellular respiration. The process of cellular respiration produced carbon dioxide as a waste product and water as a bi-product.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Analyzing
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Hard
Learning outcome: 2.9 Write the equation for cellular respiration using chemical symbols and describe it in words.

28. (p. 35) What is ATP?
A. A usable form of energy for the cell
B. A modified glucose molecule
C. The waste product produced by cellular respiration
D. Adenosine diphosphate

ATP is the cell's usable form of energy. ATP is a product of cellular respiration created by releasing the energy from a glucose molecule.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.10 Explain the importance of ATP in terms of energy use in the cell.

29. (p. 38) Which organelle regulates what enters and exits the cell?
A. Cell membrane
B. Golgi complex
C. Lysosomes
D. Nucleus

The cell membrane gives structure to cell defining what is intracellular and what is extracellular and regulates what may enter or leave the cell.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.11 Describe cell organelles and explain their functions.

30. (p. 38) Which organelle is responsible for assembling amino acids into proteins?
A. Cell membrane
B. Golgi complex
C. Lysosomes
D. Ribosomes

Ribosomes assemble amino acids into proteins.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.11 Describe cell organelles and explain their functions.

31. (p. 38) Which organelle is responsible for carrying out cellular respiration?
A. Cell membrane
B. Golgi complex
C. C.Mitochondria
D. Ribosomes

The mitochondria carry out cellular respiration and process the energy released to form ATP.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.11 Describe cell organelles and explain their functions.

32. (p. 38) All of the following organelles play a part in synthesizing and processing proteins except which one?
A. Mitochondria
B. Golgi complex
C. Endoplasmic reticulum
D. Ribosomes

The mitochondria carry out cellular respiration and process the energy released to form ATP. The Golgi complex inspects and modifies proteins and lipids produced in the cell. The endoplasmic reticulum is the site of protein production. Ribosomes assemble proteins.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Analyzing
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Hard
Learning outcome: 2.11 Describe cell organelles and explain their functions.

33. (p. 38) The cell membrane performs all of the following functions except which one?
A. Gives the cell structure
B. Regulates what enters and exits the cell
C. Defines the cell's intracellular and extracellular environment
D. Houses DNA

DNA is enclosed by a nuclear membrane while the entire cell is enclosed by the cell membrane.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Analyzing
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Hard
Learning outcome: 2.11 Describe cell organelles and explain their functions.

34. (p. 40) The phospholipids in the cell membrane are composed of what?
A. Transport proteins
B. Hydrophilic tails
C. Hydrophobic heads
D. Hydrophobic tails and hydrophilic heads

The phospholipids are composed of hydrophobic tails and hydrophilic heads. Transport proteins are a component of the cell membranes embedded in the phospholipid bi-layer.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.11 Describe cell organelles and explain their functions.

35. (p. 40) The cell membrane contains all of the following except:
A. phospholipid.
B. secretory vesicle.
C. cholesterol.
D. channels.

The cell membrane does not contain secretory vesicles; these are organelles that are located within a cell.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.11 Describe cell organelles and explain their functions.

36. (p. 42) Which of the following correctly describes passive transport?
A. Transport of materials across the cell membrane
B. Transport of materials across the cell membrane up the concentration gradient
C. Transport of materials across the cell membrane with the use of energy
D. Transport of materials across the cell membrane without the use of energy

Passive transport moves material across the cell membrane without the use of energy.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.12 Compare four methods of passive transport and active transport across a cell membrane in terms of materials moved, direction of movement, and the amount of energy required.

37. (p. 38-42) Which statement correctly compares passive and active transport?
A. Passive transport move materials across the cell membrane without the use of energy while active transport move materials across the cell membrane against the concentration gradient with the use of energy.
B. Passive transport move materials across the cell membrane with the use of energy while active transport move materials across the cell membrane against the concentration gradient without the use of energy.
C. Passive transport move materials across the cell membrane with the use of energy while active transport move materials across the cell membrane against the concentration gradient with the use of energy.
D. Passive transport move materials across the cell membrane without the use of energy while active transport move materials across the cell membrane against the concentration gradient without the use of energy.

Passive transport move materials across the cell membrane without the use of energy, while active transport move materials across the cell membrane against the concentration gradient with the use of energy.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.12 Compare four methods of passive transport and active transport across a cell membrane in terms of materials moved, direction of movement, and the amount of energy required.

38. (p. 42) Which of the following types of transport require energy?
A. Filtration
B. Facilitated diffusion
C. Active
D. Osmosis

Active transport is a type of transport that requires energy.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.12 Compare four methods of passive transport and active transport across a cell membrane in terms of materials moved, direction of movement, and the amount of energy required.

39. (p. 42) All of the following are types of passive transport except which one?
A. Filtration
B. Endocytosis
C. Osmosis
D. Simple diffusion

Types of passive transport include: filtration, simple diffusion, osmosis, and facilitated diffusion.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.12 Compare four methods of passive transport and active transport across a cell membrane in terms of materials moved, direction of movement, and the amount of energy required.

40. (p. 41) What is osmosis?
A. Diffusion across a semi-permeable membrane until concentrations are equal on either side of the membrane
B. Diffusion across a semi-permeable membrane against the concentration gradient
C. Diffusion across a semi-permeable membrane from areas of low concentration to high concentration
D. Diffusion across a semi-permeable membrane

Osmosis can be defined as diffusion across a semi-permeable membrane from an area of high concentration to low concentration until concentrations are equal.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Analyzing
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Hard
Learning outcome: 2.12 Compare four methods of passive transport and active transport across a cell membrane in terms of materials moved, direction of movement, and the amount of energy required.

41. (p. 42) Which statement incorrectly describes active transport?
A. Transport of materials from areas of low concentration to areas of high concentration
B. Movement of materials up the concentration gradient
C. Transport of materials across the cell membrane with the use of energy
D. Transport of materials from areas of high concentration to areas of low concentration

Active transport moves materials from an area of low concentration to areas of high concentration with the use of energy.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Analyzing
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Hard
Learning outcome: 2.12 Compare four methods of passive transport and active transport across a cell membrane in terms of materials moved, direction of movement, and the amount of energy required.

42. (p. 43) The sodium/potassium pump is an example of what type of transport?
A. Filtration
B. Facilitated diffusion
C. Active
D. Osmosis

The sodium/potassium pump requires energy to pump these ions across the cell membrane.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.12 Compare four methods of passive transport and active transport across a cell membrane in terms of materials moved, direction of movement, and the amount of energy required.

43. (p. 44) Which type of transport moves materials in bulk out of the cell?
A. Exocytosis
B. Endocytosis
C. Active transport
D. Passive transport

Endocytosis moves materials into the cell in bulk. Exocytosis moves materials out of the cell in bulk.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.13 Describe bulk transport, including endocytosis and exocytosis.

44. (p. 44) Which statement correctly describes endocytosis?
A. The movement of materials in bulk out of the cell
B. The movement of materials in bulk into the cell
C. The passive movement of materials out of the cell
D. The movement of small molecules out of the cell

Endocytosis moves materials into the cell in bulk. Exocytosis moves materials out of the cell in bulk.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.13 Describe bulk transport, including endocytosis and exocytosis.

45. (p. 44) Protein synthesis involves which two stages?
A. Active and passive transport
B. Endocytosis and exocytosis
C. Osmosis and diffusion
D. Transcription and translation

Protein synthesis involves a two-stage process: transcription and translation.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Easy
Learning outcome: 2.14 Describe the processes of transcription and translation in protein synthesis in terms of location and the relevant nucleic acids involved.

46. (p. 44) All of the following are examples of a strand of mRNA except which one?
A. AGCCACGTCTTGGCA
B. AGUAGCCGUCAAAA
C. CCUAGACAGUCGCU
D. AGUAGCACGCGAAU

The presence of thymine (T) denotes a strand of DNA not mRNA.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Analyzing
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Hard
Learning outcome: 2.14 Describe the processes of transcription and translation in protein synthesis in terms of location and the relevant nucleic acids involved.

47. (p. 44) ACGUUGCACGU represents what kind of strand?
A. DNA
B. mRNA
C. rRNA
D. tRNA

The presence of uracil (U) denotes a strand of mRNA.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Analyzing
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Hard
Learning outcome: 2.14 Describe the processes of transcription and translation in protein synthesis in terms of location and the relevant nucleic acids involved.

48. (p. 44) Which of the following incorrectly describes transcription?
A. The stage of protein synthesis that reads the mRNA strand and assembles a protein based on the sequence of codons present on the mRNA strand
B. The stage of protein synthesis that creates the mRNA strand
C. The stage of protein synthesis that occurs in the nucleus
D. The stage of protein synthesis that creates mRNA molecule from DNA

The stage of protein synthesis that reads the mRNA strand and assembles a protein based on the sequence of codons present on the mRNA strand describes translation not transcription.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Analyzing
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Hard
Learning outcome: 2.14 Describe the processes of transcription and translation in protein synthesis in terms of location and the relevant nucleic acids involved.

49. (p. 45) Which of the following stages of protein synthesis reads the mRNA strand and assembles a protein based on the sequence of codons present on the mRNA strand?
A. Transcription
B. Translation
C. Ribosomes
D. Transfer

In translation, the ribosome reads a codon at a time on the mRNA. A transfer RNA molecule delivers a specific amino acid to the ribosome by matching its anticodon to the codon on the mRNA.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.14 Describe the processes of transcription and translation in protein synthesis in terms of location and the relevant nucleic acids involved.

50. (p. 47) Which of the following has the sequence of events in protein synthesis in the correct order?
A. Transcription, translation, inspection of protein by the Golgi complex, protein packaged in secretory vesicle, protein exocytosed from cell
B. Inspection of protein by the Golgi complex, transcription, translation, protein packaged in secretory vesicle, protein exocytosed from cell
C. Translation, inspection of protein by the Golgi complex, transcription, protein packaged in secretory vesicle, protein exocytosed from cell
D. Transcription, translation, inspection of protein by the Golgi complex, protein exocytosed from cell, protein packaged in secretory vesicle

Once the amino acid chain has been formed, the Golgi complex inspects and possibly modifies it. The cell may use the inspected protein directly from the Golgi complex, or the Golgi complex can package the protein in a secretory vesicle that carries the protein to the cell membrane to be exocytosed from the cell.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Analyzing
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Hard
Learning outcome: 2.15 Describe what happens to a protein after translation.

51. (p. 48) Which of the statements is incorrect regarding mistakes in protein synthesis?
A. A mistake in protein synthesis will always result in catastrophic consequences.
B. A mistake in protein synthesis could result in an incorrect protein being made.
C. A mistake in protein synthesis can result in the correct protein being made.
D. Mistake in protein synthesis can have no consequence.

If a mistake in transcription results in a faulty mRNA molecule, one of two outcomes may result: The ribosome reading the faulty mRNA calls for a tRNA that brings an amino acid that is wrong; or The ribosome reading the faulty mRNA calls for a tRNA that just happens to be another tRNA that brings the correct amino acid. In the first case, a different protein is made with possible drastic consequences. In the second case, the correct protein is made and there are no consequences.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Analyzing
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Hard
Learning outcome: 2.16 Explain the possible consequences of mistakes in protein synthesis.

52. (p. 48) Which statement best describes meiosis?
A. Meiosis is a type of cell division that involves all cell types in the human body.
B. Meiosis is a type of cell division that involves sperm and egg cells.
C. Meiosis is a type of cell division that involves all cell types except sperm and egg cells.
D. Meiosis is a type of cell division.

Meiosis is only involved in sperm and egg production and will be discussed in the reproductive system chapters. Mitosis is the process all other cells use to divide and it is necessary for the development of the human anatomy.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.17 Describe the process of mitosis including a comparison of the chromosomes in a parent cell to the chromosomes in the daughter cells.

53. (p. 48) Which of the following statements best describes mitosis?
A. Mitosis is a type of cell division that involves all cell types in the human body.
B. Mitosis is a type of cell division that involves sperm and egg cells.
C. Mitosis is a type of cell division that involves all cell types except sperm and egg cells.
D. Mitosis is a type of cell division.

Meiosis is only involved in sperm and egg production and will be discussed in the reproductive system chapters. Mitosis is the process all other cells use to divide and it is necessary for the development of the human anatomy.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.17 Describe the process of mitosis including a comparison of the chromosomes in a parent cell to the chromosomes in the daughter cells.

54. (p. 48) Which of the following statements correctly describes the parent cell and daughter cells in mitosis?
A. In mitosis, the parent cell divides to become two identical daughter cells.
B. In mitosis, the parent cell divides to become two different daughter cells.
C. In mitosis, the parent cell divides to become one identical daughter cell.
D. In mitosis, the parent cell divides to become two identical sex cells.

In mitosis, the parent cell divides to become two identical daughter cells.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.17 Describe the process of mitosis including a comparison of the chromosomes in a parent cell to the chromosomes in the daughter cells.

55. (p. 48) Which statement correctly compares chromatin to chromosomes?
A. Chromatin is loosely arranged DNA in the cell's nucleus while the cell is not dividing while chromosomes are tight compact bundles of DNA present during cell division.
B. Chromatin is tightly packed DNA in the cell's nucleus while the cell is not dividing while chromosomes are also tight compact bundles of DNA present during cell division.
C. Chromatin is loosely arranged DNA in the cell's nucleus while the cell is dividing while chromosomes are tight compact bundles of DNA present while the cell is not dividing.
D. Chromatin is tightly packed DNA in the cell's nucleus while the cell is not dividing while chromosomes are loosely arranged bundles of DNA present during cell division.

Chromatin is loosely arranged DNA in the cell's nucleus while the cell is not dividing while chromosomes are tight compact bundles of DNA present during cell division.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.17 Describe the process of mitosis including a comparison of the chromosomes in a parent cell to the chromosomes in the daughter cells.

56. (p. 48) How many chromosomes does the resulting daughter cell have after mitosis?
A. 12
B. 23
C. 46
D. 92

Mitosis produces two daughter cells that contain 46 chromosomes.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.17 Describe the process of mitosis including a comparison of the chromosomes in a parent cell to the chromosomes in the daughter cells.

57. (p. 50) All of the following statements describe the consequences of mutations in DNA replication except which one?
A. The mutation can benefit the cell.
B. The mutation can be detrimental to the cell.
C. The mutation will be passed to future daughter cells.
D. There is no mechanism for proofreading DNA replication in order to avoid mutations.

DNA mutations occur despite the fact that special enzymes check the replicated DNA for accuracy.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.1. Describe structural organization of the human body
Difficulty level: Medium
Learning outcome: 2.18 Explain the possible consequences of mistakes in replication.

58. (p. 51) What is telomerase?
A. An enzyme present in cancer cells that repairs telomere damage during replication making the cancer cell immortal
B. An enzyme present in normal cells that repairs telomere damage during replication making the normal cell immortal
C. An enzyme present in normal cells that repairs telomere damage during replication
D. An enzyme present in cancer cells that repairs telomere damage during replication making the cancer cell die

Cancer cells have an active enzyme that is absent in normal cells. This enzyme, telomerase, repairs the telomere damage during replication making the cancer cell immortal.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.10. Compare body structure and function of the human body across the life span
Difficulty level: Medium
Learning outcome: 2.19 Describe the effects of aging on cell division.

59. (p. 50) Which statement correctly represents the function of telomeres?
A. Telomeres are protective caps on the ends of chromosomes that help stabilize them.
B. Telomeres are protective caps on the ends of chromosomes that help them replicate.
C. Telomeres are protective caps on the ends of chromosomes that the cell age.
D. Telomeres are protective caps on the ends of chromosomes that allow the chromosome to stick to other chromosomes.

Telomeres are sequences of nucleotides that provide a protective cap on the ends of chromosomes. Although they do not code for the production of proteins, they are believed to stabilize the chromosome by keeping it from unraveling and preventing it from sticking to other chromosomes.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.10. Compare body structure and function of the human body across the life span
Difficulty level: Medium
Learning outcome: 2.19 Describe the effects of aging on cell division.

60. (p. 51) What is histology?
A. The study of tissues
B. The study of the human body
C. The study of the history of anatomy
D. The study of physiology

Histology is the study of tissue.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.2. Identify body systems
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

61. (p. 51) All of the following are tissue classifications except which one?
A. Epithelial
B. Muscle
C. Neurons
D. Connective

Neurons are a type of cell in the nervous tissue classification.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

62. (p. 51) Which of the following statements correctly describes epithelial tissue?
A. Epithelial tissues cover and line all body surfaces including organs, vessels, and ducts.
B. Epithelial tissues allow for movement of the body.
C. Epithelial tissues have fibers in a matrix.
D. Epithelial tissues allow for communication within the body by using electrical and chemical signals.

Epithelial tissues cover and line all body surfaces including organs, vessels, and ducts. Muscle tissue allows for movement of the body, connective tissues have fibers in a matrix, and nervous tissue allows for communication within the body by using electrical and chemical signals.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Medium
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

63. (p. 60) Which of the following statements correctly describes muscle tissue?
A. Tissue that lines and covers all body surfaces
B. Tissue that allows for communication through chemical and electrical signals
C. Tissue that allows movements through the contraction of cells
D. Tissue that has cells and fibers in a matrix

Muscle tissue allows for movement.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

64. (p. 52-57) Which of the following statements correctly describes connective tissue?
A. Tissue that lines and covers all body surfaces
B. Tissue that allows for communication through chemical and electrical signals
C. Tissue that allows movements through the contraction of cells
D. Tissue that has cells and fibers in a matrix

Connective tissue is composed of cells and fibers in a matrix.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

65. (p. 61) Which of the following statements correctly describes nervous tissue?
A. Tissue that lines and covers all body surfaces
B. Tissue that allows for communication through chemical and electrical signals
C. Tissue that allows movements through the contraction of cells
D. Tissue that has cells and fibers in a matrix

Nervous tissue allows for communication by chemical and electrical signals.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

66. (p. 61) Which of the following is a function of nervous tissue?
A. Movement
B. Communication
C. Structural support
D. Protection

Nervous tissue allows for communication by chemical and electrical signals.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.5. Describe the normal function of each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

67. (p. 55) Which of the following is a function of connective tissue?
A. Movement
B. Communication
C. Structural support
D. Coverage

Connective tissue has a variety of functions one of which is structural support.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.5. Describe the normal function of each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

68. (p. 60) Which of the following is a function of muscle tissue?
A. Movement
B. Communication
C. Structural support
D. Coverage

Muscle tissue allows for movement.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.5. Describe the normal function of each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

69. (p. 51) Which of the following is a function of epithelial tissue?
A. Movement
B. Communication
C. Structural support
D. Coverage

Epithelial tissues cover and line the structures in the body.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.5. Describe the normal function of each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

70. (p. 51) Which of the following is not a shape of an epithelial cell?
A. Cuboidal
B. Squamous
C. Columnar
D. Stratified

Stratified describes the arrangement of epithelial cells not the shape.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

71. (p. 60) Which of the following is a correct statement about cardiac muscle?
A. Cardiac muscle cells are branched and multinucleated.
B. Cardiac muscle is striated and voluntary.
C. Cardiac muscle is smooth and involuntary.
D. Cardiac muscle is striated and involuntary.

Cardiac muscle tissue is found in the walls of the heart and is specially adapted to not fatigue. Cardiac muscle cells branch, appear striated, and have one nucleus per cell. Specialized junctions between cells (intercalated disks) allow for fast transmission of electrical impulses.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Medium
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

72. (p. 60) Which of the following statements correctly compares skeletal muscle and smooth muscle?
A. Skeletal muscle is striated and voluntary while cardiac muscle is striated and involuntary.
B. Skeletal muscle is smooth and voluntary while cardiac muscle is striated and involuntary.
C. Skeletal muscle is striated and voluntary while cardiac muscle is striated and voluntary.
D. Skeletal muscle is striated and involuntary while cardiac muscle is smooth and involuntary.

Skeletal muscle cells are cylindrical, appear striated (striped), and have multiple nuclei pushed off to the side. Cardiac muscle cells branch, appear striated, and have one nucleus per cell. Specialized junctions between cells (intercalated disks) allow for fast transmission of electrical impulses.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Medium
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

73. (p. 48-52) Which answer choice is not considered a type of connective tissue?
A. Bone
B. Blood **C.**
Muscle D.
Cartilage

Muscle is a tissue type while bone, blood, and cartilage are all different types of connective tissue.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Medium
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

74. (p. 55) Which term describes a stacked layer of epithelial cells?
A. Simple
B. Stratified
C. Pseudostratified
D. Transitional

Tissue layering is described in three ways: Simple epithelial tissue has a single layer of epithelial cells; Stratified epithelial tissue is composed of stacked layers of epithelial cells; and pseudostratified epithelial tissue appears to be layered, but all cells have contact with the basement membrane, so it is a false layering.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

75. (p. 51) The respiratory track is lined with which tissue type?
A. Muscle
B. Connective
C. Epithelial
D. Nervous

Epithelial tissues cover organs, vessels, and ducts and line hollow organs, vessels, and ducts. Pseudostratified ciliated columnar epithelial tissue lines much of the respiratory tract. In addition to ciliated columnar cells that move debris in the respiratory tract, this tissue contains goblet cells that function to produce mucus.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Medium
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

76. (p. 51-53) Which of the following correctly describes transitional epithelial tissue?
A. A single layer of epithelial cells
B. Stacked layers of epithelial cells
C. Epithelial tissue designed to stretch
D. Epithelial tissue appears to be layered

Simple epithelial tissue has a single layer of epithelial cells; Stratified epithelial tissue is composed of stacked layers of epithelial cells; and Pseudostratified epithelial tissue appears to be layered, but all cells have contact with the basement membrane, so it is a false layering. An exception to the naming of epithelial tissue is transitional epithelial tissue. This epithelium is stratified (layered), but its cell shape is difficult to describe because it is so changeable. Transitional epithelial tissue is designed to stretch and it lines structures like the urinary bladder.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Medium
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

77. (p. 57) Which connective tissue type functions in storing lipids?
A. Blood
B. Bone
C. Adipose
D. Cartilage

Adipose connective tissue is composed of lipid-storing fat cells. These cells are so full of lipids that the nucleus and other organelles seem to be pushed aside to allow room for the lipid droplet they contain. They are active cells that convert carbohydrates to fats. Adipose tissue can be found in the deepest layer of the skin where it serves as insulation, in the breast, around organs, and in the greater omentum.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

78. (p. 58) What type of cartilage is found in the ear?
A. Hyaline cartilage connective tissue
B. Elastic cartilage connective tissue
C. Fibrocartilage connective tissue
D. Fibroelastic cartilage connective tissue

Elastic cartilage connective tissue has elastic fibers running in all directions. These fibers allow this cartilage to snap back to shape if bent. Elastic cartilage can be found in the ear and the epiglottis. Hyaline cartilage connective tissue has a very smooth, glassy appearance. Its collagen fibers are so fine they are virtually invisible. This cartilage is found at the ends of long bones, the larynx, the nose, bronchi, and the cartilages between the ribs and sternum. Fibrocartilage connective tissue has dense bundles of collagen fibers all running in the same direction. These fibers allow this cartilage to function as a shock absorber. Fibrocartilage connective tissue can be found in the disks between vertebrae and in the meniscus of the knee.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

79. (p. 58) What type of cartilage is found in the nose?
A. Hyaline cartilage connective tissue
B. Elastic cartilage connective tissue
C. Fibrocartilage connective tissue
D. Fibroelastic cartilage connective tissue

Hyaline cartilage connective tissue has a very smooth, glassy appearance. Its collagen fibers are so fine they are virtually invisible. This cartilage is found at the ends of long bones, the larynx, the nose, bronchi, and the cartilages between the ribs and sternum. Elastic cartilage connective tissue has elastic fibers running in all directions. These fibers allow this cartilage to snap back to shape if bent. Elastic cartilage can be found in the ear, and the epiglottis. Fibrocartilage connective tissue has dense bundles of collagen fibers all running in the same direction. These fibers allow this cartilage to function as a shock absorber. Fibrocartilage connective tissue can be found in the disks between vertebrae and in the meniscus of the knee.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

80. (p. 58) Which of the following is not one of the three types of cartilage?
A. Hyaline cartilage connective tissue
B. Elastic cartilage connective tissue
C. Fibrocartilage connective tissue
D. Fibroelastic cartilage connective tissue

Hyaline cartilage connective tissue has a very smooth glassy appearance. Its collagen fibers are so fine they are virtually invisible. This cartilage is found at the ends of long bones, the larynx, the nose, bronchi, and the cartilages between the ribs and sternum. Elastic cartilage connective tissue has elastic fibers running in all directions. These fibers allow this cartilage to snap back to shape if bent. Elastic cartilage can be found in the ear, and the epiglottis. Fibrocartilage connective tissue has dense bundles of collagen fibers all running in the same direction. These fibers allow this cartilage to function as a shock absorber. Fibrocartilage connective tissue can be found in the disks between vertebrae and in the meniscus of the knee. There is no such thing as fibroelastic cartilage connective tissue.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.4. List major organs in each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

81. (p. 61) What is the function of neuroglia?
A. Communication
B. Protection and support
C. Movement
D. Coverage

Neuroglia protects and support neurons in their function.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.5. Describe the normal function of each body system
Difficulty level: Easy
Learning outcome: 2.20 Describe the four classifications of tissues in the human body.

82. (p. 62) Which statement describes hypertrophy?
A. Tissue growth is achieved by an increase in the number of cells.
B. Tissue growth is achieved by an increase in cell size.
C. Tissue growth is achieved by a decrease in the number of cells.
D. Tissue growth is achieved by a decrease in cell size.

Hypertrophy occurs because existing cells grow bigger. Hyperplasia occurs when more cells are produced.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Easy
Learning outcome: 2.21 Describe the modes of tissue growth, change, shrinkage, and death.

83. (p. 62) Which statement describes hyperplasia?
A. Tissue growth is achieved by an increase in the number of cells.
B. Tissue growth is achieved by an increase in cell size.
C. Tissue growth is achieved by a decrease in the number of cells.
D. Tissue growth is achieved by a decrease in cell size.

Hypertrophy occurs because existing cells grow bigger. Hyperplasia occurs when more cells are produced.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Easy
Learning outcome: 2.21 Describe the modes of tissue growth, change, shrinkage, and death.

84. (p. 62) What is neoplasia?
A. Tissue growth is achieved by an increase in the number of cells.
B. Tissue growth is achieved by an increase in cell size.
C. Controlled cell growth.
D. Uncontrolled cell growth.

Neoplasia is the uncontrolled growth and proliferation of cells.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Easy
Learning outcome: 2.21 Describe the modes of tissue growth, change, shrinkage, and death.

85. (p. 62) Which of the following incorrectly describes a benign neoplasm?
A. A neoplasm that remains localized
B. A neoplasm that is encapsulated
C. A neoplasm that does not metastasize
D. A neoplasm in which cells have broken off and traveled to other parts of the body where they are producing more abnormal cells

Benign neoplasms tend to be encapsulated and remain local. Malignant neoplasms tend to have cells that break off and travel to other parts of the body where they continue to produce more abnormal cells. This migration is called metastasis.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Medium
Learning outcome: 2.21 Describe the modes of tissue growth, change, shrinkage, and death.

86. (p. 62) Which of the following correctly describes a malignant neoplasm?
A. A neoplasm that remains localized
B. A neoplasm that is encapsulated
C. A neoplasm that does not metastasize
D. A neoplasm in which cells have broken off and traveled to other parts of the body where they are producing more abnormal cells

Benign neoplasms tend to be encapsulated and remain local. Malignant neoplasms tend to have cells that break off and travel to other parts of the body where they continue to produce more abnormal cells. This migration is called metastasis.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Medium
Learning outcome: 2.21 Describe the modes of tissue growth, change, shrinkage, and death.

87. (p. 62) What describes the change of tissue from one type to another?
A. Neoplasia
B. Hyperplasia
C. Metaplasia
D. Cytoplasia

Metaplasia refers to tissue changing from one type to another. Neoplasia is uncontrolled cell growth and hyperplasia is an increase in cell number.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Easy
Learning outcome: 2.21 Describe the modes of tissue growth, change, shrinkage, and death.

88. (p. 62) Which term refers to shrinkage of tissue due to a decrease in cell size?
A. Atrophy
B. Necrosis
C. Hypertrophy
D. Apoptosis

Atrophy is the shrinkage of tissue due to a decrease in cell size or number. Necrosis is the premature death of tissue, caused by disease, infection, toxins, or trauma. Apoptosis is programmed cell death. Hypertrophy refers to tissue growth not shrinkage.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Easy
Learning outcome: 2.21 Describe the modes of tissue growth, change, shrinkage, and death.

89. (p. 62) What is programmed cell death?
A. Atrophy
B. Necrosis
C. Hypertrophy
D. Apoptosis

Atrophy is the shrinkage of tissue due to a decrease in cell size or number. Necrosis is the premature death of tissue, caused by disease, infection, toxins, or trauma. Apoptosis is programmed cell death. Hypertrophy refers to tissue growth not shrinkage.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Easy
Learning outcome: 2.21 Describe the modes of tissue growth, change, shrinkage, and death.

90. (p. 62) Which answer choice refers to premature tissue death caused by disease, infection, toxins or trauma?
A. Atrophy
B. Necrosis
C. Hypertrophy
D. Apoptosis

Atrophy is the shrinkage of tissue due to a decrease in cell size or number. Necrosis is the premature death of tissue, caused by disease, infection, toxins, or trauma. Apoptosis is programmed cell death. Hypertrophy refers to tissue growth not shrinkage.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Easy
Learning outcome: 2.21 Describe the modes of tissue growth, change, shrinkage, and death.

91. (p. 62) Which statement correctly compares necrosis and apoptosis?
A. Necrosis is premature tissue death caused by disease, infection, toxins or trauma, and apoptosis is programmed cell death.
B. Necrosis is prolonged tissue death caused by disease, infection, toxins or trauma, and apoptosis is programmed cell death.
C. Necrosis is programmed tissue death caused by disease, infection, toxins or trauma, and apoptosis is programmed cell death.
D. Necrosis is premature tissue death caused by diseases, infection, toxins or trauma, and apoptosis is premature cell death.

Necrosis is premature tissue death caused by disease, infection, toxins or trauma, and apoptosis is programmed cell death.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Analyzing
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Hard
Learning outcome: 2.21 Describe the modes of tissue growth, change, shrinkage, and death.

92. (p. 62) What causes gangrene?
A. Insufficient blood supply
B. The formation of neoplasms
C. The presence of infection
D. Insufficient blood supply that is associated with an infection

Gangrene is tissue necrosis resulting from insufficient blood supply, often associated with an infection.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Medium
Learning outcome: 2.21 Describe the modes of tissue growth, change, shrinkage, and death.

93. (p. 62) Infarction is defined as:
A. programmed cell death.
B. premature death of tissue.
C. sudden blood loss.
D. sudden tissue death resulting from the loss of blood supply.

Infarction is the sudden death of tissue, which often result from a loss of blood supply.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Easy
Learning outcome: 2.21 Describe the modes of tissue growth, change, shrinkage, and death.

94. (p. 62) What is the function of apoptosis?
A. Programmed cell death
B. To remove old, worn out cells
C. To remove cells that have fulfilled their function and are no longer needed
D. All of these are correct.

Apoptosis is programmed cell death that have fulfilled their function and are no longer needed.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Medium
Learning outcome: 2.21 Describe the modes of tissue growth, change, shrinkage, and death.

95. (p. 62) What is cancer?
A. Programmed cell death
B. Uncontrolled growth of tissue forming neoplasms
C. Hyperplasia
D. Hypertrophy

Cancer is uncontrolled growth of tissue forming neoplasms.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Easy
Learning outcome: 2.23 Explain how genetic and environmental factors can cause cancer.

96. (p. 63) What are environmental factors that can cause cancer?
A. Oncogenes
B. Carcinogenes
C. Neoplasms
D. Mutations

Carcinogens are environmental factors that affect DNA, and cause mutations that can lead to cancer.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Easy
Learning outcome: 2.23 Explain how genetic and environmental factors can cause cancer.

97. (p. 63) What kind of cancer originates in connective tissue or muscle tissue?
A. Carcinoma
B. Sarcoma
C. Lymphomas
D. Leukemia

Carcinomas originate in epithelial tissues. Sarcomas originate in connective tissues or muscle. Lymphomas originate in lymphoid tissue, discussed in the lymphatic system chapter. Leukemias originate in blood forming tissues in the red bone marrow.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Easy
Learning outcome: 2.23 Explain how genetic and environmental factors can cause cancer.

98. (p. 58-62) What organ system is responsible for gas exchange, sense of smell, and creating pressure gradients necessary to circulate blood and lymph?
A. Cardiovascular system
B. Nervous system
C. Respiratory system
D. Lymphatic system

The functions of the respiratory system are: gas exchange, acid-base balance, speech, sense of smell, and create pressure gradients necessary to circulate blood and lymph. The functions of the lymphatic system are: fluid balance, immunity, and lipid absorption, and defense against disease. The functions of the cardiovascular system are: transportation, protection by fighting foreign invaders and clotting to prevent its own loss, acid-base balance, fluid and electrolyte balance, and temperature regulation. The functions of the nervous system are: communication, motor control, and sensation.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.6. Identify common pathology related to each body system
Difficulty level: Easy
Learning outcome: 2.24 Identify the human body systems and their major organs.

99. (p. 58-62) What organ system is responsible for fluid balance, immunity, and lipid absorption, and defense against disease?
A. Cardiovascular system
B. Nervous system
C. Respiratory system
D. Lymphatic system

The functions of the respiratory system are: gas exchange, acid-base balance, speech, sense of smell, and create pressure gradients necessary to circulate blood and lymph. The functions of the lymphatic system are: fluid balance, immunity, and lipid absorption, and defense against disease. The functions of the cardiovascular system are: transportation, protection by fighting foreign invaders and clotting to prevent its own loss, acid-base balance, fluid and electrolyte balance, and temperature regulation. The functions of the nervous system are: communication, motor control, and sensation.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.5. Describe the normal function of each body system
Difficulty level: Easy
Learning outcome: 2.24 Identify the human body systems and their major organs.

100. (p. 58-62) What organ system is responsible for communication and hormone production?
A. Cardiovascular system
B. Nervous system
C. Endocrine system
D. Lymphatic system

The functions of the endocrine system are communication and hormone production. The functions of the lymphatic system are: fluid balance, immunity, and lipid absorption, and defense against disease. The functions of the cardiovascular system are: transportation, protection by fighting foreign invaders and clotting to prevent its own loss, acid-base balance, fluid and electrolyte balance, and temperature regulation. The functions of the nervous system are: communication, motor control, and sensation.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.5. Describe the normal function of each body system
Difficulty level: Easy
Learning outcome: 2.24 Identify the human body systems and their major organs.

101. (p. 58-62) Which organ system does not function in some type of communication within the human body?
A. Muscular system
B. Nervous system
C. Endocrine system
D. Lymphatic system

The functions of the endocrine system are communication and hormone production. The functions of the lymphatic system are: fluid balance, immunity, and lipid absorption, and defense against disease. The functions of the muscular system are: movement, stability, control of body openings and passages, communication and heat production. The functions of the nervous system are: communication, motor control, and sensation.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Applying
CAAHEP: I.C.5. Describe the normal function of each body system
Difficulty level: Medium
Learning outcome: 2.24 Identify the human body systems and their major organs.

102. (p. 58-62) What organ system is responsible for movement, stability, control of body openings and passages, communication and heat production?
A. Cardiovascular system
B. Nervous system
C. Endocrine system
D. Muscular system

The functions of the endocrine system are communication and hormone production. The functions of the muscular system are: movement, stability, control of body openings and passages, communication and heat production. The functions of the cardiovascular system are: transportation, protection by fighting foreign invaders and clotting to prevent its own loss, acid-base balance, fluid and electrolyte balance, and temperature regulation. The functions of the nervous system are: communication, motor control, and sensation.

ABHES: 2.b. Identify and apply the knowledge of all body systems, their structure and functions, and their common diseases, symptoms and etiologies.
Bloom's Taxonomy: Remembering
CAAHEP: I.C.5. Describe the normal function of each body system
Difficulty level: Easy
Learning outcome: 2.24 Identify the human body systems and their major organs.