

# Practice Quizzes Answer Key

## Unit 1

### Introductory Concepts

#### Multiple choice

- |      |      |      |       |       |
|------|------|------|-------|-------|
| 1. c | 4. b | 7. b | 10. b | 13. a |
| 2. c | 5. c | 8. c | 11. c | 14. b |
| 3. d | 6. d | 9. c | 12. a | 15. b |

#### Fill-in-the-blank

- |                      |                      |                |
|----------------------|----------------------|----------------|
| 1. function          | 3. positive feedback | 5. Homeostasis |
| 2. negative feedback | 4. anatomy           | 6. homeostasis |

#### Matching

##### Abdominopelvic regions

- |      |      |      |      |      |      |
|------|------|------|------|------|------|
| 1. A | 2. D | 3. C | 4. F | 5. B | 6. E |
|------|------|------|------|------|------|

##### Directional terminology

- |      |      |           |            |
|------|------|-----------|------------|
| 1. E | 4. J | 7. G      | 10. C      |
| 2. A | 5. D | 8. L      | 11. H      |
| 3. K | 6. B | 9. F OR K | 12. I OR B |

### Chemistry

#### Multiple choice

- |      |      |      |       |       |
|------|------|------|-------|-------|
| 1. c | 4. d | 7. d | 10. c | 13. b |
| 2. c | 5. b | 8. d | 11. d | 14. d |
| 3. d | 6. c | 9. b | 12. b | 15. b |

#### Fill-in-the-Blanks

- |   |   |
|---|---|
| 1. to store hereditary materials, guide the formation of protein and activities of the cell | 19. nucleotides   |
| 2. unfolds or loses its 3d structure  | 20. cholesterol   |
| 3. vitamin D and steroid hormones   | 21. electrons are shared between atoms  |
| 4. formation of the plasma membranes  | 22. triglycerides, phospholipids, sterols   |
| 5. its tertiary or quaternary structure   | 23. glucose, fructose, galactose  |
| 6. contains no double bonds.  | 24. compounds that are proton or hydrogen ion donors                                |
| 7. covalent bonds between amino acids   | 25. negatively charged  |
| 8. lipids   | 26. hydrogen  |
| 9. to provide the pattern, amino acids and site for formation of proteins                   | 27. hydrophilic or phosphate group  |
| 10. glycogen, starch, cellulose/fiber.  | 28. a measurement of hydrogen ion concentration                                     |
| 11. amino acids   | 29. atoms that contain the same number of protons but different numbers of neutrons |
| 12. carbohydrates, proteins, lipids, nucleic acids  | 30. polypeptide or protein  |
| 13. compounds that prevent large fluctuations in pH.  | 31. water   |
| 14. DNA (deoxyribonucleic acid), RNA (ribonucleic acid)                                     | 32. hydrogen ion or proton acceptors  |
| 15. an attraction between polar molecules   | 33. ions with opposite charges are attracted to each other                          |
| 16. hydrophobic, fatty acid and glycerol portion  | 34. positively  |
| 17. covalent  | 35. atoms that have gained or lost electrons, atoms with a charge                   |
| 18. water   |   |

#### Matching

##### Macromolecules

- |         |            |      |                   |
|---------|------------|------|-------------------|
| 1. G    | 4. F       | 7. C | 10. A, B, F, G, H |
| 2. D, E | 5. G       | 8. C |                   |
| 3. A    | 6. C, D, E | 9. H |                   |

##### Chemical Terms

- |      |      |      |      |       |       |
|------|------|------|------|-------|-------|
| 1. C | 3. E | 5. A | 7. K | 9. D  | 11. B |
| 2. J | 4. F | 6. H | 8. G | 10. L | 12. I |

### True or False

- |      |      |      |      |       |
|------|------|------|------|-------|
| 1. F | 3. T | 5. F | 7. T | 9. T  |
| 2. F | 4. T | 6. F | 8. T | 10. F |

### **Cell Structure and Function**

#### Multiple choice:

- |      |       |       |       |       |
|------|-------|-------|-------|-------|
| 1. b | 6. b  | 11. c | 16. a | 21. d |
| 2. d | 7. a  | 12. b | 17. d | 22. e |
| 3. b | 8. b  | 13. a | 18. c | 23. d |
| 4. c | 9. d  | 14. b | 19. b | 24. e |
| 5. a | 10. b | 15. a | 20. a | 25. a |

#### Fill-in-the-Blanks:

- |   |  |
|---|--|
| 1. lactic acid  | 24. ribosome synthesis   |
| 2. the ability to do work   | 25. they use oxygen  |
| 3. specific; substrate  | 26. anaerobic  |
| 4. active transport   | 27. die  |
| 5. produce ATP  | 28. broken down  |
| 6. phospholipids  | 29. carrier molecule   |
| 7. not all molecules can freely move through the membrane                               | 30. down or with   |
| 8. hypertonic   | 31. high; low  |
| 9. proteins   | 32. the cytoplasm  |
| 10. mitochondrion   | 33. transport molecules from the nucleus; synthesize proteins (rough ER); lipids and carbohydrates (smooth ER) |
| 11. modify material from the ER and package it for storage or transport out of the cell | 34. plasma membrane  |
| 12. mitochondrion   | 35. pinocytosis  |
| 13. carbon dioxide, water, energy as heat and ATP                                       | 36. lysosomes  |
| 14. hypotonic   | 37. microvilli   |
| 15. digest cell components, engulfed particles  | 38. Gap junctions  |
| 16. Golgi apparatus   | 39. Selectively permeable  |
| 17. cellular respiration: Krebs' cycle and electron transport system                    | 40. 2; phospholipids   |
| 18. final electron acceptor   | 41. fluid mosaic model   |
| 19. high energy bond  | 42. Diffusion  |
| 20. the binding sites on enzymes for the substrate                                      | 43. energy   |
| 21. synthesized   | 44. energy   |
| 22. passive transport   | 45. Phagocytosis   |
| 23. nuclear envelope  | 46. exocytosis   |

### True or False

- |      |      |      |       |       |
|------|------|------|-------|-------|
| 1. F | 4. T | 7. T | 10. F | 13. F |
| 2. F | 5. F | 8. T | 11. F |       |
| 3. F | 6. T | 9. F | 12. T |       |

### **Tissue**

#### Multiple choice:

- |      |      |      |      |       |
|------|------|------|------|-------|
| 1. a | 3. d | 5. c | 7. b | 9. a  |
| 2. b | 4. b | 6. b | 8. d | 10. b |

#### Fill-in-the-Blanks:

- |                                   |   |
|-----------------------------------|---|
| 1. Smooth                         | 11. hyaline, fibrocartilage, elastic  |
| 2. neurons                        | 12. hyaline   |
| 3. stratified squamous epithelium | 13. store energy, insulate and protect  |
| 4. fibrocartilage                 | 14. bind structures, support and protection, fill spaces, store fat, produce blood cells, help repair tissue damage |
| 5. collagen, reticular, elastic   | 15. the intercellular substance in connective tissue  |
| 6. ducts                          | 16. the bloodstream   |
| 7. in the walls of hollow organs  | 17. protection, secretion, absorption, excretion  |
| 8. Cardiac                        | 18. one layer of flat scale-like cells  |
| 9. chondrocytes                   |   |
| 10. blood vessels                 |   |

- 19. muscle
- 20. simple cuboidal
- 21. Skeletal

- 22. bone
- 23. mucous
- 24. glial cells

**True or False**

- |      |      |      |      |       |
|------|------|------|------|-------|
| 1. F | 3. F | 5. T | 7. T | 9. F  |
| 2. T | 4. T | 6. T | 8. T | 10. F |

**Skin**

**Multiple choice:**

- |      |      |      |       |       |
|------|------|------|-------|-------|
| 1. a | 4. a | 7. e | 10. a | 13. c |
| 2. a | 5. d | 8. b | 11. e | 14. c |
| 3. e | 6. d | 9. b | 12. a | 15. a |

**Fill-in-the-Blanks:**

- |   |                                      |
|---|--------------------------------------|
| 1. deoxygenated; cyanotic                       | 11. dermis; epidermis                |
| 2. ear; cerumen (ear wax)                       | 12. the epidermis; epithelial tissue |
| 3. keratinocyte                                 | 13. the dermis; connective tissue    |
| 4. increases; heat; environment                 | 14. flushing                         |
| 5. increased blood flow                         | 15. the dermis                       |
| 6. controlling blood flow to the skin and sweat | 16. dermal papillae                  |
| 7. an oily secretion                            | 17. blood vessels and adipose tissue |
| 8. eccrine sweat glands                         | 18. blood vessels                    |
| 9. the accumulation of keratin by a skin cell   | 19. the sebaceous glands             |
| 10. protection; UV radiation                    | 20. jaundice                         |

**True or False**

- |      |      |      |      |       |
|------|------|------|------|-------|
| 1. T | 3. F | 5. T | 7. F | 9. F  |
| 2. F | 4. F | 6. F | 8. F | 10. T |

**Bone Structure & Function**

**Multiple choice:**

- |      |       |       |       |       |
|------|-------|-------|-------|-------|
| 1. e | 6. e  | 11. b | 16. b | 21. d |
| 2. a | 7. a  | 12. d | 17. b | 22. c |
| 3. e | 8. d  | 13. a | 18. c |       |
| 4. e | 9. b  | 14. b | 19. a |       |
| 5. c | 10. d | 15. c | 20. b |       |

**Fill-in-the-Blanks:**

- |   |  |
|---|--|
| 1. endosteum  | 13. on the ends of the epiphyses   |
| 2. compact  | 14. to form bone matrix  |
| 3. blood cell formation   | 15. osteoclasts; osteoblasts   |
| 4. bone & teeth formation, blood clotting, muscle contraction, nerve conduction, gland secretion, heart contraction | 16. hyaline cartilage  |
| 5. trabeculae   | 17. cancellous (spongy)  |
| 6. lacunae  | 18. protection; support; attachment of muscles; mineral storage; hematopoiesis |
| 7. the formation of bone tissue   | 19. periosteum   |
| 8. membranes; cartilage   | 20. epiphyseal plate   |
| 9. canaliculi   | 21. diaphysis  |
| 10. inorganic matrix (hydroxyapatite); organic matrix (ground substance)  | 22. to allows the bone to grow in length                                       |
| 11. maintain the bone matrix  | 23. cancellous (spongy); compact.  |
| 12. blood vessels, nerves, lymphatics   | 24. calcium  |
|   | 25. yellow marrow  |

**True or False**

- |      |      |      |      |
|------|------|------|------|
| 1. F | 3. T | 5. T | 7. F |
| 2. F | 4. F | 6. T | 8. T |

**Matching:**

**Bone Structure**

- |      |      |      |      |      |
|------|------|------|------|------|
| 1. C | 2. E | 3. A | 4. B | 5. D |
|------|------|------|------|------|

**Cartilage**

- |      |      |      |      |      |      |
|------|------|------|------|------|------|
| 1. C | 2. B | 3. A | 4. C | 5. A | 6. B |
|------|------|------|------|------|------|

## Muscle Tissue Structure & Function

### Multiple choice:

- |      |      |       |       |       |
|------|------|-------|-------|-------|
| 1. d | 5. b | 9. b  | 13. d | 17. d |
| 2. c | 6. d | 10. a | 14. b | 18. b |
| 3. b | 7. a | 11. a | 15. c | 19. c |
| 4. a | 8. c | 12. a | 16. b | 20. b |

### Fill-in-the-Blanks:

- |   |  |
|---|--|
| 1. the muscle attachment on the bone that moves   | 15. muscle fiber   |
| 2. a contraction where the muscle stays the same length and tension in the muscle increases | 16. myosin   |
| 3. to replenish ATP   | 17. oxygen   |
| 4. glycogen   | 18. tendon   |
| 5. neurotransmitter/acetylcholine   | 19. pyruvate, lactic acid  |
| 6. actin, tropomyosin, troponin   | 20. the muscle attachment to the bone that doesn't move                                      |
| 7. cause muscle contractions  | 21. a contraction where the muscle shortens and tension remains constant in the muscle fiber |
| 8. Acetylcholine  | 22. to transport the action potential into the muscle fiber                                  |
| 9. calcium  | 23. the active site of actin, the binding of actin and myosin                                |
| 10. troponin  | 24. sarcolemma   |
| 11. actin slides across myosin  | 25. tetany   |
| 12. myosin cross-bridges  |  |
| 13. the area where the neuron interacts with the sarcolemma                                 |  |
| 14. the neuron and the muscle fiber   |  |

### True or False

- |      |      |      |      |       |       |       |
|------|------|------|------|-------|-------|-------|
| 1. F | 3. T | 5. F | 7. T | 9. F  | 11. F | 13. F |
| 2. T | 4. T | 6. T | 8. F | 10. F | 12. F |       |

### Events of the Muscle Cell Contraction

8, 2, 6, 9, 12, 3, 7, 4, 1, 11, 5, 10

## Unit 2

## Nervous Tissue

### Multiple choice:

- |      |      |      |       |       |
|------|------|------|-------|-------|
| 1. a | 4. d | 7. b | 10. d | 13. c |
| 2. d | 5. c | 8. a | 11. a | 14. d |
| 3. a | 6. c | 9. c | 12. b | 15. c |

### Fill-in-the-Blanks:

- |  |                                |
|--|--------------------------------|
| 1. somatic                             | 13. sensory                    |
| 2. node of Ranvier                     | 14. microglia                  |
| 3. sympathetic; parasympathetic        | 15. astrocytes                 |
| 4. afferent or sensory                 | 16. efferent or motor          |
| 5. oligodendrocyte; Schwann cell       | 17. central nervous system     |
| 6. dendrite; cell body; axon           | 18. sodium                     |
| 7. perineurium                         | 19. refractory period          |
| 8. neurolemma                          | 20. action potential           |
| 9. stimulus-gated sodium channels open | 21. resting membrane potential |
| 10. positive                           | 22. repolarization             |
| 11. calcium                            | 23. sodium-potassium pump      |
| 12. receptor; postsynaptic cell        |                                |
24. First: c ; Second: f; Third: d; Fourth: a; Fifth: e; Sixth: b
25. a. receptor stimulated; b. afferent neuron carries impulse to spinal cord; c. interpretation of information; d. efferent neuron carries impulse to effector; e. effector responds

### True or False

- |      |      |      |      |       |       |
|------|------|------|------|-------|-------|
| 1. F | 3. T | 5. F | 7. F | 9. T  | 11. T |
| 2. F | 4. F | 6. F | 8. F | 10. F |       |

## Central Nervous System

### Multiple choice:

- |      |      |      |       |       |
|------|------|------|-------|-------|
| 1. a | 4. a | 7. c | 10. a | 13. a |
| 2. d | 5. d | 8. d | 11. a | 14. d |
| 3. d | 6. a | 9. b | 12. c |       |

### Fill-in-the-Blanks:

- |   |  |
|---|--|
| 1. central canal  | 10. brain; spinal cord                                       |
| 2. corpus callosum  | 11. cerebellum   |
| 3. hypophysis or pituitary gland                                    | 12. medulla or brainstem                                     |
| 4. limbic   | 13. cerebrum   |
| 5. pia mater  | 14. precentral gyrus or primary motor cortex                 |
| 6. subarachnoid space   | 15. hypothalamus   |
| 7. voluntary movement and reflex activity at the level of the nerve | 16. choroid plexuses   |
| 8. hypothalamus   | 17. primary sensory cortex                                   |
| 9. medulla oblongata; pons; midbrain                                | 18. sensations and reflex activity at the level of the nerve |

### True or False

- |      |      |      |      |       |
|------|------|------|------|-------|
| 1. F | 3. F | 5. T | 7. F | 9. T  |
| 2. T | 4. F | 6. F | 8. T | 10. F |

## Peripheral Nervous System

### Multiple choice:

- |      |      |      |       |       |       |
|------|------|------|-------|-------|-------|
| 1. b | 4. c | 7. c | 9. d  | 11. a | 14. a |
| 2. b | 5. d | 8. d | 10. b | 12. a |       |
| 3. b | 6. a |      |       | 13. a |       |

### Fill-in-the-Blanks:

- |   |  |
|---|--|
| 1. efferent; afferent                   | 13. sympathetic postganglionic fiber   |
| 2. phrenic                              | 14. parasympathetic  |
| 3. fight-or-flight                      | 15. motor neuron; preganglionic neuron; preganglionic and postganglionic neurons |
| 4. beta-1                               | 16. sympathetic  |
| 5. acetylcholine                        | 17. sympathetic  |
| 6. homeostasis                          | 18. parasympathetic  |
| 7. parasympathetic                      | 19. thoracolumbar  |
| 8. vagus                                | 20. First: 4, Second: 1, Third: 5, Fourth: 2, Fifth : 3                          |
| 9. acetylcholine                        | 21. parasympathetic  |
| 10. optic                               | 22. sympathetic  |
| 11. olfactory; optic; vestibulocochlear |  |
| 12. acetylcholine                       |  |

### True or False

- |      |      |      |      |       |       |
|------|------|------|------|-------|-------|
| 1. T | 3. T | 5. T | 7. F | 9. F  | 11. T |
| 2. F | 4. F | 6. F | 8. F | 10. T |       |

## Sensory Receptors

### Multiple choice:

- |      |      |      |      |       |
|------|------|------|------|-------|
| 1. d | 3. a | 5. b | 7. e | 9. a  |
| 2. c | 4. c | 6. c | 8. d | 10. b |

### Fill-in-the-Blanks:

- |                           |                                   |
|---------------------------|-----------------------------------|
| 1. malleus, incus, stapes | 5. vestibulocochlear; temporal    |
| 2. utricle, saccule       | 6. middle ear; nasopharynx        |
| 3. rods                   | 7. oval window                    |
| 4. lens, retina           | 8. changing the shape of the lens |

9. sclera
10. cochlea
11. cornea, lens, aqueous humor, vitreous humor
12. chemoreceptors
13. lens, cornea
14. photoreceptors
15. retina

16. pupil
17. organ of Corti
18. ciliary body or process
19. semicircular canals
20. optic tract, occipital
21. roof of the nose
22. fovea centralis

**True or False**

- |      |      |      |      |      |
|------|------|------|------|------|
| 1. F | 3. F | 5. F | 7. F | 9. T |
| 2. T | 4. F | 6. T | 8. F |      |

**Endocrine System**

**Multiple choice:**

- |      |      |      |      |       |
|------|------|------|------|-------|
| 1. b | 3. c | 5. d | 7. b | 9. c  |
| 2. d | 4. a | 6. b | 8. e | 10. d |

**Fill-in-the-Blanks:**

- |   |  |
|---|--|
| 1. Norepinephrine                               | 14. liver                                  |
| 2. Steroid                                      | 15. pancreas, insulin                      |
| 3. pineal                                       | 16. kidney                                 |
| 4. thymus                                       | 17. pancreas, glucagon                     |
| 5. glucagon                                     | 18. iodine                                 |
| 6. adrenal cortex                               | 19. parathyroid gland, parathyroid hormone |
| 7. thyroid                                      | 20. adrenal cortex                         |
| 8. insulin                                      | 21. thyroid gland, calcitonin              |
| 9. ovary/testis                                 | 22. thyroid                                |
| 10. hypothalamus                                | 23. parathyroid hormone                    |
| 11. posterior pituitary or neurohypophysis, ADH | 24. adrenal medulla                        |
| 12. adrenal cortex, aldosterone                 | 25. Protein                                |
| 13. aldosterone                                 |  |

**True or False**

- |      |      |      |      |       |       |       |
|------|------|------|------|-------|-------|-------|
| 1. F | 3. T | 5. F | 7. F | 9. F  | 11. T | 13. F |
| 2. F | 4. T | 6. F | 8. F | 10. T | 12. F | 14. T |

**Matching**

- |      |      |      |      |       |
|------|------|------|------|-------|
| 1. C | 3. E | 5. B | 7. H | 9. J  |
| 2. G | 4. C | 6. F | 8. A | 10. D |

**Unit 3**

**Blood**

**Multiple choice:**

- |      |      |      |      |       |       |       |
|------|------|------|------|-------|-------|-------|
| 1. a | 3. c | 5. b | 7. b | 9. d  | 11. d | 13. d |
| 2. b | 4. b | 6. a | 8. b | 10. d | 12. c | 14. b |

**Fill-in-the-Blanks:**

- |                                       |                    |
|---------------------------------------|--------------------|
| 1. neutrophils                        | 10. hemoglobin     |
| 2. maintain osmotic pressure          | 11. erythropoiesis |
| 3. albumins, globulins and fibrinogen | 12. heme           |
| 4. polycythemia                       | 13. bilirubin      |
| 5. Diapedesis                         | 14. erythropoietin |
| 6. formed elements                    | 15. leukocytes     |
| 7. plasma                             | 16. phagocytosis   |
| 8. serum                              | 17. macrophages    |
| 9. globulins                          | 18. leukopenia     |

- |                                  |                            |
|----------------------------------|----------------------------|
| 19. megakaryocytes               | 24. platelet (thrombocyte) |
| 20. fibrin                       | 25. Fibrinogen             |
| 21. defense                      | 26. AB                     |
| 22. A or AB                      | 27. eosinophil             |
| 23. erythrocyte (red blood cell) |                            |

**True or False**

- |      |      |      |       |       |       |
|------|------|------|-------|-------|-------|
| 1. F | 4. F | 7. F | 10. F | 13. T | 16. F |
| 2. T | 5. F | 8. T | 11. F | 14. F |       |
| 3. F | 6. T | 9. F | 12. T | 15. T |       |

**Cardiovascular Structure & Function**

**Multiple choice:**

- |      |      |      |       |       |       |       |
|------|------|------|-------|-------|-------|-------|
| 1. b | 4. c | 7. d | 10. a | 13. a | 16. a | 19. b |
| 2. d | 5. a | 8. a | 11. d | 14. d | 17. b | 20. b |
| 3. c | 6. d | 9. b | 12. c | 15. c | 18. d |       |

**Fill-in-the-Blanks:**

- |                                 |                                  |   |
|---------------------------------|----------------------------------|---|
| 1. venous return                | 13. atria                        | 25. right atrium, superior & inferior vena cava |
| 2. pulmonary                    | 14. pulmonary veins              | 26. ventricles                                  |
| 3. systemic                     | 15. tricuspid valve              | 27. left ventricle                              |
| 4. left atrium, pulmonary veins | 16. semilunar valves             | 28. left atrium                                 |
| 5. diastole                     | 17. coronary arteries            | 29. av node                                     |
| 6. Arteries                     | 18. pacemaker                    | 30. foramen ovale                               |
| 7. interventricular septum      | 19. capillaries                  | 31. stroke volume, heart rate                   |
| 8. pulmonary vein               | 20. valve                        | 32. brachiocephalic artery                      |
| 9. myocardium                   | 21. coronary arteries            | 33. ductus arteriosus                           |
| 10. systole                     | 22. bicuspid valve, mitral valve | 34. arterioles                                  |
| 11. Veins                       | 23. pulmonary artery             | 35. preload, afterload and contractility        |
| 12. base                        | 24. hepatic portal vein          |   |

**True or False**

- |      |      |      |       |       |       |       |
|------|------|------|-------|-------|-------|-------|
| 1. T | 4. F | 7. T | 10. F | 13. F | 16. T | 19. T |
| 2. T | 5. F | 8. T | 11. T | 14. T | 17. F |       |
| 3. F | 6. F | 9. F | 12. T | 15. F | 18. F |       |

**Lymphatics and Immunity**

**Multiple choice:**

- |      |      |      |      |       |       |
|------|------|------|------|-------|-------|
| 1. e | 3. a | 5. d | 7. b | 9. c  | 11. d |
| 2. c | 4. c | 6. a | 8. b | 10. b | 12. c |

**Fill-in-the-Blanks:**

- |                                    |   |
|------------------------------------|---|
| 1. palatine tonsils                | 10. lymph nodes                             |
| 2. lymphocytes                     | 11. lacteals                                |
| 3. antigens                        | 12. tonsils, spleen, thymus                 |
| 4. IgG                             | 13. skeletal muscle contractions, breathing |
| 5. plasma cells                    | 14. T-lymphocytes                           |
| 6. skin and mucous membranes       | 15. antibody-mediated immunity              |
| 7. redness, warmth, swelling, pain | 16. natural passive                         |
| 8. neutrophils                     | 17. IgE                                     |
| 9. left subclavian vein            | 18. spleen                                  |

**True or False**

- |      |      |      |       |       |       |
|------|------|------|-------|-------|-------|
| 1. T | 4. F | 7. F | 10. F | 13. F | 16. T |
| 2. F | 5. T | 8. T | 11. T | 14. T | 17. F |
| 3. T | 6. F | 9. T | 12. F | 15. F | 18. T |

## Respiratory Structure & Function

### Multiple choice:

- |      |      |      |       |       |
|------|------|------|-------|-------|
| 1. e | 4. a | 7. c | 10. d | 13. a |
| 2. b | 5. d | 8. d | 11. b | 14. c |
| 3. b | 6. c | 9. b | 12. d | 15. b |

### Fill-in-the-Blanks:

- |                                    |  |   |
|------------------------------------|--|---|
| 1. carbon dioxide levels           | 9. 46 mm Hg.                           | 16. warming, humidification and filtering |
| 2. inspiratory                     | 10. tidal volume                       | 17. 40 mm Hg.                             |
| 3. epiglottis                      | 11. alveolar ventilation               | 18. 40 mm Hg.                             |
| 4. alveoli                         | 12. pressure gradient                  | 19. vital capacity                        |
| 5. air conduction and gas exchange | 13. surfactant                         | 20. 97%                                   |
| 6. hilum                           | 14. hypoxia                            | 21. dissolved                             |
| 7. bicarbonate                     | 15. volume of the thorax,<br>diaphragm | 22. 100 mm Hg                             |
| 8. increases                       |  |   |

### True or False

- |      |      |      |       |       |       |
|------|------|------|-------|-------|-------|
| 1. T | 4. T | 7. T | 10. F | 13. F | 16. T |
| 2. T | 5. T | 8. F | 11. F | 14. T | 17. T |
| 3. F | 6. F | 9. T | 12. T | 15. F | 18. T |

## Unit 4

## Digestion & Metabolism

### Multiple choice:

- |      |      |      |       |       |       |       |
|------|------|------|-------|-------|-------|-------|
| 1. c | 4. a | 7. b | 10. a | 13. c | 16. c |       |
| 2. c | 5. b | 8. a | 11. a | 14. d | 17. b | 19. a |
| 3. a | 6. c | 9. a | 12. b | 15. c | 18. a | 20. a |

### Fill-in-the-Blanks:

- |                                 |                     |  |
|---------------------------------|---------------------|--|
| 1. uvula                        | 10. secretin        | 19. mitochondria                       |
| 2. small intestine              | 11. CCK             | 20. insulin                            |
| 3. pyloric sphincter            | 12. small intestine | 21. gluconeogenesis                    |
| 4. gallbladder, small intestine | 13. lipids          | 22. deamination                        |
| 5. stomach                      | 14. Segmentation    | 23. triglycerides                      |
| 6. liver                        | 15. Amino acids     | 24. ketones                            |
| 7. peristalsis                  | 16. glucose         | 25. digestion, absorption, elimination |
| 8. monosaccharides              | 17. glycogenolysis  |  |
| 9. emulsification               | 18. cytoplasm       |  |

### True or False

- |      |      |      |      |       |       |
|------|------|------|------|-------|-------|
| 1. T | 3. F | 5. T | 7. T | 9. F  | 11. F |
| 2. F | 4. T | 6. F | 8. F | 10. T | 12. F |

## Urinary System

### Multiple choice:

- |      |      |      |       |       |
|------|------|------|-------|-------|
| 1. c | 4. a | 7. c | 10. a | 13. a |
| 2. d | 5. b | 8. a | 11. a | 14. c |
| 3. c | 6. b | 9. c | 12. c | 15. d |

### Fill-in-the-Blanks:

- |                       |   |
|-----------------------|---|
| 1. store urine        | 6. proximal convoluted tubule                                       |
| 2. calyces            | 7. creatinine and BUN (blood urea nitrogen)                         |
| 3. ureter             | 8. ascending limb of the loop of Henle and distal convoluted tubule |
| 4. filtration         | 9. filtration, reabsorption, secretion                              |
| 5. afferent arteriole |   |



- |   |                                 |
|---|---------------------------------|
| 10. potassium                           | 16. osmosis                     |
| 11. distal convoluted tubule            | 17. aldosterone                 |
| 12. secretion                           | 18. increases                   |
| 13. reabsorption                        | 19. ball or knot of capillaries |
| 14. blood pressure decreases            | 20. proximal convoluted tubule  |
| 15. is drained by an efferent arteriole |                                 |

**True or False**

- |      |      |      |      |       |       |
|------|------|------|------|-------|-------|
| 1. T | 3. T | 5. F | 7. T | 9. T  | 11. F |
| 2. F | 4. F | 6. T | 8. F | 10. F |       |

**Fluid & Electrolyte/Acid-Base Study Guide**

**Multiple choice:**

- |      |      |      |      |       |
|------|------|------|------|-------|
| 1. b | 3. a | 5. b | 7. c | 10. a |
| 2. b | 4. a | 6. a | 8. b | 11. d |

**Fill-in-the-Blanks:**

- |                                   |   |
|-----------------------------------|---|
| 1. hyponatremia                   | 12. osmotic   |
| 2. sodium                         | 13. hydrostatic   |
| 3. interstitial fluid             | 14. edema   |
| 4. aldosterone                    | 15. potassium   |
| 5. potassium                      | 16. myocardium/heart  |
| 6. kidneys                        | 17. kidneys, lungs  |
| 7. prevent drastic changes in pH  | 18. phosphates, hemoglobin, bicarbonate                             |
| 8. secreting hydrogen ions        | 19. respiratory alkalosis   |
| 9. decrease, respiratory acidosis | 20. Sodium, potassium   |
| 10. metabolic acidosis            | 21. metabolic, increased respirations (decreased P <sub>CO2</sub> ) |
| 11. the cells                     | 22. P <sub>CO2</sub> , respiratory acidosis                         |

**True or False**

- |      |      |      |       |       |
|------|------|------|-------|-------|
| 1. F | 4. T | 7. T | 10. T | 13. T |
| 2. T | 5. F | 8. T | 11. T |       |
| 3. F | 6. F | 9. T | 12. T |       |

**Reproductive Systems**

**Multiple choice:**

- |      |      |      |      |       |       |
|------|------|------|------|-------|-------|
| 1. c | 3. a | 5. c | 7. a | 9. d  | 11. a |
| 2. a | 4. b | 6. c | 8. d | 10. d | 12. b |

**Fill-in-the-Blanks:**

- |                                    |                                    |
|------------------------------------|------------------------------------|
| 1. seminal vesicle                 | 10. prostate gland                 |
| 2. corpus spongiosum               | 11. ovulation                      |
| 3. bulbourethral (Cowper's) glands | 12. vagina                         |
| 4. Fallopian or uterine tube       | 13. cervix                         |
| 5. progesterone                    | 14. endometrium                    |
| 6. estrogen and progesterone       | 15. LH (lutening hormone) AKA ICSH |
| 7. spermatogenesis                 | 16. testosterone                   |
| 8. seminiferous tubules            | 17. estrogen                       |
| 9. follicle maturation             |                                    |

**True or False**

- |      |      |      |      |       |
|------|------|------|------|-------|
| 1. T | 3. F | 5. F | 7. F | 9. T  |
| 2. F | 4. F | 6. F | 8. F | 10. T |