Chapter 02: Biopsychology, Neuroscience, and Human *Nature*

1.0 - Chapter 02 Multiple Choice

1. Which of the following is true of nerve cell development?
    a. The brain has excess neurons at birth.
    b. There are about 100 billion nerve cells in the adult brain.
    c. Some nerve cells are pruned away during the first few years of life.
    d. Our brain can generate new nerve cells.
    e. All of the above are correct.

Difficulty: 3
Page Reference: 42
Topic: Introduction
Skill: Factual
Objective: 2.1

Answer: e. All of the above are correct.

2. Which of the following is true about neurons?
    a. There are only about 15 basic neuron types.
    b. Human neurons die only when you are very old.
    c. The total number of neurons remains relatively constant once we reach adulthood.
    d. Each type of neuron has its own distinct parts.
    e. Humans lose approximately 100 neurons per day.

Difficulty: 3
Page Reference: 42
Topic: Introduction
Skill: Factual
Objective: 2.1

Answer: c. The total number of neurons remains relatively constant once we reach adulthood.

3. _____ is the interdisciplinary field involving biologists, psychologists, computer scientists, and chemists, as well as other experts.
    a. Psychiatry
    b. Eclecticism
    c. Human factors
    d. Evolutionology
    e. Neuroscience

Difficulty: 1
Page Reference: 42
Topic: Introduction

Skill: Factual
Objective: 2.1

Answer: e. Neuroscience

4. Because the human brain is born already programmed for language, we can say that language is a(n) _____ behavioral tendency.

a. essential
b. critical
c. innate

Correct. An innate tendency is something that is ready to develop from birth, and consistent across a species.

d. somatic

Incorrect. The word somatic refers to something that has to do with the body. It is not the correct answer to this question.

e. cerebral

Difficulty: 2
Page Reference: 43
Topic: How Are Genes and Behavior Linked?
Skill: Conceptual
Objective: 2.1

Answer: c. innate

5. _____ refers to the process by which successive generations of organisms are changed in a way that favors those well adapted to their surroundings.

a. Evolution
b. Cortical restructuring
c. Adaptive realism
d. Incremental functionalism
e. Neuroscience

Difficulty: 1
Page Reference: 43
Topic: How Are Genes and Behavior Linked?
Skill: Factual
Objective: 2.1

Answer: a. Evolution

6. Behavior consistently found in a species is likely to have a genetic basis that evolved because the behavior has been adaptive. Which of the following human behaviors illustrate this concept?

a. driving a car
b. sending astronauts to the moon

c. Down syndrome

Incorrect. Down syndrome is not an adaptive quality of human beings; rather, it is an illness that is caused by having one too many chromosomes.

d. language

Correct. The ability to use language as a means of communication is certainly adaptive to human beings.

e. the ability to program a cell phone

Difficulty: 2
Page Reference: 43
Topic: How Are Genes and Behavior Linked?
Skill: Conceptual
Objective: 2.1

Answer: d. language

7. Darwin's theory of _____ argues that evolution favors those organisms that are best adapted to their environment.

a. encephalization

b. bipedalism

Incorrect. This term refers to an animal that walks on two feet. Fish are not bipedal animals, yet they adapt very well to their environments.

c. specialization

d. natural selection

Correct. This was the major crux of Darwin's theory of evolution.

e. creationism

Difficulty: 2
Page Reference: 44
Topic: Evolution and Natural Selection
Skill: Conceptual
Objective: 2.1

Answer: d. natural selection

8. Darwin's theory of evolution suggests that the only measure of success for a species is

a. being the largest of the species.

Incorrect. Being the largest is not always a desirable trait. In some species, the largest are the first to die off.

b. not competing with members of the same species.

c. possessing the best coloring and shape of the species.

d. successful reproduction.

Correct. Those members of a species that successfully passed their genes to the next generation were considered the most successful members of the species in Darwin's theory.

e. the uniqueness of the species.

Difficulty: 3
Page Reference: 44
Topic: Evolution and Natural Selection
Skill: Conceptual
Objective: 2.1

Answer: d. successful reproduction.

9. In purely evolutionary terms, which one would be a measure of your own success as an organism?

a. your intellectual accomplishments
b. the length of your life
c. the number of children you have

Correct. Successful reproduction was a major measure of success in Darwin's theory.

d. the contributions you made to the happiness of humanity
e. your height relative to others in your “clan,” or “tribe”

Incorrect. Being the biggest is not always the best. Successful reproduction, however, is what Darwin's theory paid the most attention to.

Difficulty: 2
Page Reference: 44
Topic: Evolution and Natural Selection
Skill: Applied
Objective: 2.1

Answer: c. the number of children you have

10. Which of the following did you NOT inherit from your parents?

a. religious beliefs
b. facial features
c. temperament
d. hair color
e. height

Difficulty: 1
Page Reference: 45
Topic: Genetics and Inheritance
Skill: Factual
Objective: 2.1

Answer: a. religious beliefs

11. The genetic blueprint you inherited from your parents is referred to as your

a. genetic hardiness.
b. genotype.

c. genomic identity.
d. phenotype.
e. chromotype.

Difficulty: 3
Page Reference: 45
Topic: Genetics and Inheritance
Skill: Factual
Objective: 2.1

Answer: b. genotype.

12. Some identical twins have the same genetic makeup, but look slightly different. Their slight differences in appearance are an example of _____, which are influenced by both biology and environment.

a. genotypes

Incorrect. A person's genotype refers to their genetic blueprint and it is fixed at conception.

b. environmental selections
c. phenotypes

Correct. A person's phenotype refers to the physical expression of their genetic code.

d. habitats
e. neurons

Difficulty: 2
Page Reference: 45
Topic: Genetics and Inheritance
Skill: Applied
Objective: 2.1

Answer: c. phenotypes

13. Which of the following is a characteristic that might be a part of your phenotype?

a. your height and eye color

Correct. A person's phenotype refers to the physical expression of their genetic code.

b. the members of your family
c. what you have learned in school
d. the childhood diseases you have had
e. the number of chromosomes you have.

Incorrect. This would be a part of your genotype, not your phenotype.

Difficulty: 2
Page Reference: 45
Topic: Genetics and Inheritance
Skill: Applied
Objective: 2.1

Answer: a. your height and eye color

14. This is a segment of a chromosome that encodes the directions for the inherited physical and mental characteristics of an organism:
    a. RNA
    b. phenotype
    c. genotype
    d. DNA
    e. gene

Difficulty: 1
Page Reference: 46
Topic: Genetics and Inheritance
Skill: Factual
Objective: 2.1

Answer: e. gene

15. Which of the following statements expresses the correct relationship?
    a. Genes are made of chromosomes.
    b. DNA is made of chromosomes.
    c. Nucleotides are made of genes.
    d. Genes are made of nucleotides.
    e. Genotypes are made of phenotypes.

Difficulty: 2
Page Reference: 46
Topic: Genetics and Inheritance
Skill: Factual
Objective: 2.1

Answer: d. Genes are made of nucleotides.

16. Genes are composed of smaller molecular units called
    a. chromosomes.
    b. peptides.
    c. nucleotides.
    d. genotypes.
    e. phenotypes.

Difficulty: 2
Page Reference: 46
Topic: Genetics and Inheritance
Skill: Factual
Objective: 2.1

Answer: c. nucleotides.

17. At the moment of conception, a male child receives _____ chromosomes from his mother and _____ from his father.
    a. 23; 23
    b. 24; 24
    c. 23; 46
    d. 46; 23
    e. 2; 2

Difficulty: 2
Page Reference: 46
Topic: Genetics and Inheritance
Skill: Factual
Objective: 2.1

Answer: a. 23; 23

18. A male child inherits _____ from his father.
    a. no chromosomes
    b. an X chromosome
    c. a Y chromosome
    d. either an X or a Y chromosome
    e. both an X and a Y chromosome

Difficulty: 2
Page Reference: 47
Topic: Genetics and Inheritance
Skill: Factual
Objective: 2.1

Answer: c. a Y chromosome

19. Schizophrenia, a severe mental disorder, is thought to involve
    a. more than one gene.
    b. a single chromosome.
    c. a single gene.
    d. the deletion of genes from the 22nd chromosome.
    e. some missing chromosomes.

Difficulty: 3
Page Reference: 47
Topic: Genetics and Inheritance
Skill: Factual
Objective: 2.1

Answer: a. more than one gene.

20. Down syndrome is caused by having an extra _____ chromosome.
    a. 20th
    b. 21st
    c. 22nd
    d. 23rd
    e. 24th

Difficulty: 1
Page Reference: 47
Topic: Genetics and Inheritance
Skill: Factual
Objective: 2.1

Answer: b. 21st

21. Which of the following is NOT a characteristic of Down syndrome?
    a. reliance on others to meet one's basic needs
    b. mental retardation
    c. behavior that is modifiable through training
    d. an extra chromosome in the 23rd pair
    e. impaired physical development

Difficulty: 3
Page Reference: 47
Topic: Genetics and Inheritance
Skill: Factual
Objective: 2.1

Answer: d. an extra chromosome in the 23rd pair

22. A key goal of the Human Genome Project is to
    a. determine the complete human genetic code.
    b. create new genetic material in scientific laboratories.
    c. figure out how to destroy dangerous genetic material.
    d. uncover the causes of each person's genetic makeup.
    e. examine the degree of genetic similarity between humans and other animals.

Difficulty: 2
Page Reference: 48
Topic: Psychology Matters: Choosing Your Children's Genes
Skill: Factual
Objective: 2.1

Answer: a. determine the complete human genetic code.

23. The function of the _____ is to carry information to and from all parts of the body.
a. soma
b. synapse
c. nervous system
d. endorphins
e. dendrite
Difficulty: 1
Page Reference: 49-50
Topic: How Does the Body Communicate Internally?
Skill: Factual
Objective: 2.2

Answer: c. nervous system

24. The nervous system is defined as
a. a complex network of cells that carries information to and from all parts of the body.
b. a specialized cell that makes up the brain and nervous system.
c. all nerves and neurons that are not contained in the brain and spinal cord but that run throughout the body itself.
d. a gland located in the brain that secretes human growth hormone.
e. a series of chemicals that send messages between neurons.
Difficulty: 1
Page Reference: 49-50
Topic: How Does the Body Communicate Internally?
Skill: Factual
Objective: 2. 2

Answer: a. a complex network of cells that carries information to and from all parts of the body.

25. _____ form the body's two communication systems.
a. The left and right hemispheres of the brain
b. The dendrites and the axons
c. The nervous system and the endocrine system
d. Genetics and the environment
e. Reflexes and controlled behavior

Difficulty: 1
Page Reference: 49-50
Topic: How Does the Body Communicate Internally?
Skill: Factual
Objective: 2.2

Answer: c. The nervous system and the endocrine system

26. The _____ is the basic building block of the nervous system.
    a. soma
    b. neuron
    c. axon
    d. terminal button
    e. reflex

Difficulty: 2
Page Reference: 50
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: b. neuron

27. A specialized cell that makes up the nervous system that receives and sends messages within that system is called a
    a. glial cell.
    b. neuron.
    c. cell body.
    d. myelin sheath.
    e. oligodendrocyte.
Difficulty: 1
Page Reference: 50
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2. 2

Answer: b. neuron.

28. _____ neurons carry messages to the brain.
    a. Motor
    b. Sensory
    c. Inter-
    d. Sympathetic
    e. Peripheral

Difficulty: 2
Page Reference: 50
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: b. Sensory

29. LaKeisha stepped on a piece of glass and quickly pulled her foot away from that sharp object. Which of the following are responsible for sending a message to the muscles in LaKeisha's foot, resulting in her pulling her foot away from the piece of glass?

a. motor neurons

Correct. Motor neurons carry messages from the central nervous system to the muscles of the body.

b. interneurons

Incorrect. Interneurons connect the sensory neurons to the motor neurons.

c. sensory neurons

d. reflexes

e. spinal neurons

Difficulty: 3
Page Reference: 50
Topic: The Neuron: Building Block of the Nervous System
Skill: Applied
Objective: 2.2

Answer: a. motor neurons

30. Mary put her hand on a hot stove. Which neuron is responsible for sending a pain message up her spinal column, where it would then enter into the main area of the cord?

a. motor neuron

b. interneuron

Incorrect. Sensory neurons carry information from the senses to the spinal cord.

c. sensory neuron

Correct. Sensory neurons carry information from the senses to the spinal cord.

d. reflex

e. efferent neuron

Difficulty: 2
Page Reference: 50
Topic: The Neuron: Building Block of the Nervous System
Skill: Applied
Objective: 2.2

Answer: c. sensory neuron

31. _____ carry messages away from the brain to the muscles of the body.

a. Cortical neurons

b. Sensory neurons

c. Interneurons

d. Glial cells

e. Motor neurons

Difficulty: 2
Page Reference: 50

Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: e. Motor neurons

32. Afferent neurons
a. are responsible for delivering messages from the CNS to the muscles and glands.
b. transport messages between sensory neurons and motor neurons.
c. are the same as sensory neurons that are sensitive to external stimuli.
d. communicate directly with motor neurons in the peripheral nervous system.
e. continuously monitor the routine operation of the body's internal functions.

Difficulty: 2
Page Reference: 50
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: c. are the same as sensory neurons that are sensitive to external stimuli.

33. Motor neurons are also known as
a. divergent neurons.
b. congruent neurons.
c. efferent neurons.
d. afferent neurons.
e. defferent neurons.

Difficulty: 1
Page Reference: 50
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: c. efferent neurons.

34. Every one of your actions arises from
a. neural impulses delivered from your sensory neurons to your brain.
b. neural impulses from the brain delivered to your muscles.
Correct. Your physical actions are a result of the communication from your brain to your muscles. This is accomplished primarily through motor neurons
c. the imperatives of natural selection.
d. the parallel nervous system.
e. sympathetic nervous system activity.
Incorrect. The sympathetic nervous system is part of the autonomic branch of the

peripheral nervous system. This is not the best answer to the question.

Difficulty: 2
Page Reference: 50-51
Topic: The Neuron: Building Block of the Nervous System
Skill: Applied
Objective: 2.2

Answer: b. neural impulses from the brain delivered to your muscles.

35. Which of the following are responsible for acting as a facilitator of communication between neurons?
    a. motor neurons
    b. interneurons
    c. sensory neurons
    d. reflexes
    e. hormones

Difficulty: 3
Page Reference: 51
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: b. interneurons

36. Which of the following is true about interneurons?
    a. Interneurons form simple circuits in the brain.
    b. There are 200,000 of them for every motor neuron.
    c. They are only found in the peripheral nervous system.
    d. They are not found in the brain and spinal cord.
    e. They relay messages between nerve cells.

Difficulty: 3
Page Reference: 51
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: e. They relay messages between nerve cells.

37. The branchlike structures that receive messages from other neurons are called _____.
    a. axons
    b. nerve bundles
    c. dendrites
    d. synapses

e. vesicles
Difficulty: 1
Page Reference: 51
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: c. dendrites

38. Dendrite is to axon as:
a. send is to receive.
Incorrect. This is the opposite of the correct answer.
b. send is to regulate.
c. receive is to send.
Correct. Dendrites are treelike parts of the neuron that are designed to receive messages. The axon sends messages to other neurons.
d. receive is to release.
e. mimic is to inhibit
Difficulty: 2
Page Reference: 51-52
Topic: The Neuron: Building Block of the Nervous System
Skill: Conceptual
Objective: 2.2

Answer: c. receive is to send.

39. Your teacher asks you to describe the sequence of parts of a neuron that the impulse travels during neural conduction. Which of the following sequences will you offer?
a. dendrites, axon, soma, terminal button
b. terminal buttons, axon, soma, dendrites
c. axon, soma, dendrites, terminal button
Incorrect. The neural impulse begins with the receipt of messages from the dendrites.
d. dendrites, soma, axon, terminal button
Correct. This answer describes the correct sequence.
e. neurotransmitters, dendrites, axon, soma
Difficulty: 3
Page Reference: 51-53
Topic: The Neuron: Building Block of the Nervous System
Skill: Applied
Objective: 2.2

Answer: d. dendrites, soma, axon, terminal button

40. Neural signals travel along a neuron in what order?
a. axon, dendrite, soma, terminal button
b. terminal button, soma, dendrite, axon

c. dendrite, soma, axon, terminal button
d. dendrite, axon, soma, terminal button
e. axon, soma, dendrite, terminal button

Difficulty: 3
Page Reference: 51-53
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: c. Dendrite, soma, axon, terminal button

41. _____ is another name for the neuron cell body.
a. Soma
b. Dendrite
c. Nucleus
d. Myelin
e. Synapse

Difficulty: 2
Page Reference: 52
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: a. Soma

42. Which part of a neuron is attached to the soma and carries messages out to other cells?
a. soma
b. axon
c. dendrite
d. cell membrane
e. ions
Difficulty: 1
Page Reference: 52
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: b. axon

43. The function of the neuron's axon is to
a. carry messages to other cells.
b. regulate the neuron's life processes.

c. receive messages from neighboring neurons.
d. insulate against leakage of electrical impulses.
e. inhibit communication between neurons.
Difficulty: 2
Page Reference: 52
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: a. carry messages to other cells

44. When a cell is "at rest," it is in a state called the
a. stopping point.
b. obcipitation junction.
c. resting potential.
d. action potential.
e. refractory potential.
Difficulty: 1
Page Reference: 52
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: c. resting potential.

45. What do we call the state of a neuron when it is not firing a neural impulse?
a. action potential
b. resting potential
c. myelination signal
d. transmission impulse
e. refractory impulse
Difficulty: 1
Page Reference: 52
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: b. resting potential

46. Which of the following is NOT true of neuron function?
a. At rest, the nerve cell has a slight negative charge across the membrane.
Incorrect. This is a correct statement, because when the neuron is inactive there are more negative ions inside of the cellular membrane.
b. The action potential is due to positive ions flowing into the neuron.
c. The action potential is a switch from negative to positive potential that moves along the axon membrane.

d. A stimulus will either "fire" the neuron or it will fail to fire it.
e. Nerve cells only use electrical signals to communicate with each other.
Correct. This is not correct, because neural transmission is an electrochemical process.

Difficulty: 3
Page Reference: 52-53
Topic: The Neuron: Building Block of the Nervous System
Skill: Conceptual
Objective: 2.2

Answer: e. Nerve cells only use electrical signals to communicate with each other.

47. During action potential, the electrical charge inside the neuron is _____ the electrical charge outside the neuron.
a. positive compared to
Correct. There are more positively charged ions inside the cell than outside.
b. larger than
c. negative compared to
Incorrect. During resting potential, the inside is more negatively charged.
d. smaller than
e. hydrophilic
Difficulty: 2
Page Reference: 52-53
Topic: The Neuron: Building Block of the Nervous System
Skill: Conceptual
Objective: 2.2

Answer: a. positive compared to

48. When a neuron fires, it fires in a(n) _____ fashion as there is no such thing as "partial" firing.
a. all-or-none
Correct. This is the term used to describe how neurons fire according to the book.
b. rapid fire
c. accidental patterned
d. quick successioned
Incorrect. There is no such thing as "quick successioned" firing.
e. correlated
Difficulty: 2
Page Reference: 53
Topic: The Neuron: Building Block of the Nervous System
Skill: Conceptual
Objective: 2.2

Answer: a. all-or-none

49. “All or none” is the principle stating that
a. a neuron either fires or does not fire
b. a neuron fires at full strength or not at all
c. all the dendrites must be receiving messages telling the neuron to fire or it will not fire at all
d. all somas must be receiving messages telling the neuron to fire or it will not fire at all
e. all neurotransmitters must be released at one time, or none will be released at all.
Difficulty: 2
Page Reference: 53
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: a. a neuron either fires or does not fire

50. The microscopic space between the terminal button of one cell and the dendrites of the next cell is called the
a. receptor site.
b. synapse.
c. synaptic knob.
d. axon terminal.
e. dendritic cleft.
Difficulty: 1
Page Reference: 53
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: b. synapse

51. The action potential causes neurotransmitters to be released into the
a. myelin sheath.
b. axon.
c. synapse.
d. synaptic vesicle.
e. dendritic cleft.
Difficulty: 2
Page Reference: 53
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: c. synapse

52. During the process of synaptic transmission,
    a. information is passed between the two cerebral hemispheres.
    b. is sent from the reticular formation to the cortex.
    c. a chemical message is sent across the synapse.
    d. a gland releases a hormone into the bloodstream.
    e. the neuron becomes silent.

Difficulty: 3
Page Reference: 53
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: c. a chemical message is sent across the synapse.

53. During synaptic transmission, the _____ within the axon results in the release of a(n) _____ that can traverse the synaptic gap.
    a. myelin sheath; chemical message
    b. electrical impulse; chemical message
    c. electrical message; chemical message
    d. myelin sheath; electrical impulse
    e. ionic impulse; electrical impulse

Difficulty: 2
Page Reference: 53
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: b. electrical impulse; chemical message

54. _____ are biochemical substances that are released into the synaptic cleft to stimulate or suppress other neurons.
    a. Receptors
    b. Hormones
    c. Neurotransmitters
    d. Interneurons
    e. Neurohormones

Difficulty: 2
Page Reference: 53
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: c. Neurotransmitters

55. Reuptake is

a. a chemical that is released into the synaptic gap.

b. a protein molecule on the dendrite or cell body of a neuron that will interact only with specific neurotransmitters.

c. a process by which neurotransmitters are sucked back into the synaptic vesicles.

d. a chemical that plays a role in learning and attention.

e. polypeptide that strengthens neural impulses.

Difficulty: 1
Page Reference: 53
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: c. a process by which neurotransmitters are sucked back into the synaptic vesicles.

56. Isabella is putting mustard on her hot dog. She realizes she has put too much and sucks up some of it back into the squeeze bottle. This process is similar to

a. the action potential.

b. receptor site bindings.

c. binding specificity.

Incorrect. Binding specificity refers to the fact that Iran's receptor sites are designed to receive only one specific neurotransmitter.

d. reuptake.

Correct. Recall take occurs when excess neurotransmitters are reabsorbed into the sending neuron.

e. the resting potential

Difficulty: 3
Page Reference: 53
Topic: The Neuron: Building Block of the Nervous System
Skill: Applied
Objective: 2.2

Answer: d. reuptake.

57. Schizophrenia is thought to occur when a person has an imbalance within this particular neurotransmitter system:

a. serotonin

b. endorphins

c. dopamine

d. acetylcholine

e. GABA

Difficulty: 3
Page Reference: 54

Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: c. dopamine

58. The poison of the black widow spider works by stimulating the release of excessive amounts of
    a. acetylcholine
    b. dopamine
    c. endorphins
    d. serotonin
    e. GABA
Difficulty: 3
Page Reference: 54
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: a. acetylcholine

59. A person whose brain suffers from a disruption in the serotonin system might suffer from
    a. high blood pressure.
    b. epilepsy.
    c. Parkinson's disease.
    d. Alzheimer's disease.
    e. obsessive-compulsive disorder.

Difficulty: 3
Page Reference: 54
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: e. obsessive-compulsive disorder.

60. Disturbances of the neurotransmitter _____ can produce memory problems.
    a. serotonin
    b. norepinephrine
    c. GABA
    d. acetylcholine
    e. glutamate

Difficulty: 3
Page Reference: 54

Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: d. acetylcholine

61. Hallucinogenic drugs, such as LSD, produce their effects via an action on the neurotransmitter
    a. dopamine.
    b. GABA.
    c. endorphin.
    d. acetylcholine.
    e. serotonin.

Difficulty: 3
Page Reference: 54
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: e. serotonin.

62. Endorphins are
    a. found where neurons meet skeletal muscles.
    b. less powerful than enkaphalins.
    c. pain-controlling chemicals.
    d. radically different in function from neurotransmitters.
    e. responsible for the fatal reaction that human beings have when bit by a Black Widow spider.

Difficulty: 2
Page Reference: 54
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: c. pain-controlling chemicals

63. Pain-controlling chemicals in the body are called
    a. neural regulators.
    b. histamines.
    c. androgens.
    d. endorphins.
    e. enkaphalins.
Difficulty: 1
Page Reference: 54

Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: d. endorphins

64. Jack suffered a brain injury as a result of hitting his head while waterskiing. One of the problems that developed was that Jack could not pronounce certain words correctly for a long period of time until he had extensive speech therapy and can now speak as he did before his accident. This is an example of the brain's _____ which allowed the structure and function of his brain cells to change to adjust to the trauma.

a. adaptology
b. stagnation
c. plasticity

Correct. This allowed Jack's brain to adapt after the trauma.

d. reflex arc

Incorrect. Neuroplasticity accounts for Jack's brain to allow him to speak correctly despite damage.

e. reflexology

Difficulty: 2
Page Reference: 55
Topic: The Neuron: Building Block of the Nervous System
Skill: Applied
Objective: 2.2

Answer: c. plasticity

65. Peter suffers damage to his left frontal lobe and loses the ability to speak, although he can still understand speech. Despite the permanence of this damage, he is able to recover some of his speech due to the ability of other parts of the brain to take over lost function. This phenomenon is known by neuroscientists as

a. flexibility.
b. adaptiveness.
c. plasticity.

Correct. Think of plasticity, in the simplest terms, as the ability of parts of the brain to adapt their functions.

d. compensation.

Incorrect. Plasticity is a compensatory process, but compensation is not the best answer to this question.

e. homeostasis.

Difficulty: 2
Page Reference: 55
Topic: The Neuron: Building Block of the Nervous System
Skill: Applied
Objective: 2.2

Answer: c. plasticity.

66. _____ are specialized support cells for neurons.
    a. Interneurons
    b. Sensory neurons
    c. Glial
    d. Myelin sheaths
    e. Axons

Difficulty: 1
Page Reference: 55
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: c. Glial

67. What is the function of myelin?
    a. to serve as a structure for neurons
    b. to monitor neural activity
    c. to speed up the neural impulse
    d. to produce neurotransmitters
    e. to receive signals from other neurons
Difficulty: 2
Page Reference: 55
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: c. to speed up the neural impulse

68. Which of the following is true about myelin?
    a. It's a fatty substance.
    b. It is covered by axons.
    c. It inhibits neural communication.
    d. It slows down neuronal operations.
    e. It cannot be affected by illness.
Difficulty: 2
Page Reference: 55
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: a. It's a fatty substance.

69. Multiple sclerosis is a disease that involves problems with the
    a. dendrites.
    b. soma, or cell body.
    c. axon.
    d. myelin sheath.
    e. terminal buttons.

Difficulty: 2
Page Reference: 55
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: d. myelin sheath.

70. The two major subsystems of the nervous system are the central nervous system and the
    a. autonomic nervous system.
    b. sympathetic nervous system.
    c. peripheral nervous system.
    d. parasympathetic nervous system.
    e. somatic nervous system.

Difficulty: 1
Page Reference: 56
Topic: The Nervous System
Skill: Factual
Objective: 2.2

Answer: c. peripheral nervous system.

71. The central nervous system is comprised of all the neurons in the _____ and the _____.
    a. brain; spinal cord
    b. muscles; terminal buttons
    c. brain; skeletal muscles
    d. glands; spinal cord
    e. axons; dendrites

Difficulty: 2
Page Reference: 56
Topic: The Nervous System
Skill: Factual
Objective: 2.2

Answer: a. brain; spinal cord

72. Your ability to smell pizza in the oven and to then remove and eat that pizza is due to the activity of

a. the parietal lobe of your brain.
b. the occipital lobe of your brain.
c. the autonomic nervous system.

Incorrect. The autonomic nervous system is largely responsible for involuntary processes.

d. the parasympathetic nervous system.
e. the somatic nervous system.

Correct. The somatic nervous system controls such processes as motor control and sensory reception.

Difficulty: 3
Page Reference: 57
Topic: The Nervous System
Skill: Applied
Objective: 2.2

Answer: e. the somatic nervous system.

73. The peripheral nervous system consists of

a. all the nerve cells that are not in the brain and spinal cord.
b. all nerves in the brain and the spinal cord.
c. the spinal cord and autonomic system.
d. the brain and the autonomic system.
e. motor neurons and sensory neurons.

Difficulty: 1
Page Reference: 57
Topic: The Nervous System
Skill: Factual
Objective: 2.2

Answer: a. all the nerve cells that are not in the brain and spinal cord.

74. The peripheral nervous system is comprised of

a. the autonomic nervous system and the sympathetic division.
b. the autonomic nervous system and the central nervous system.
c. the somatic nervous system and the autonomic nervous system.
d. the somatic nervous system and the sympathetic division.
e. the parasympathetic nervous system and the central nervous system.

Difficulty: 2
Page Reference: 57
Topic: The Nervous System
Skill: Factual

Objective: 2.2

Answer: c. the somatic nervous system and the autonomic nervous system.

75. Your ability to play the piano is regulated by the
a. somatic nervous system.
Correct. Control of voluntary muscles, such as those in the hand, are under the auspices of the somatic nervous system.
b. medial nervous system.
Incorrect. There is no such thing as a medial nervous system.
c. peripheral nervous system.
d. limbic system.
e. parasympathetic nervous system.

Difficulty: 3
Page Reference: 57
Topic: The Nervous System
Skill: Applied
Objective: 2.2

Answer: a. somatic nervous system.

76. Voluntary muscles are controlled by the _____ nervous system.
a. somatic
b. autonomic
c. sympathetic
d. parasympathetic
e. afferent
Difficulty: 1
Page Reference: 57
Topic: The Nervous System
Skill: Factual
Objective: 2.2

Answer: a. somatic

77. When you see someone you have a crush on and your heart pounds, your hands get sweaty, and your cheeks feel hot, your _____ is/are active.
a. skeletal nervous system
b. spinal reflexes
c. autonomic nervous system
Correct. The autonomic nervous system controls involuntary muscles and glands.
d. somatic nervous system
Incorrect. The somatic nervous system controls voluntary muscles.
e. interneurons
Difficulty: 2

Page Reference: 57
Topic: The Nervous System
Skill: Applied
Objective: 2.2

Answer: c. autonomic nervous system

78. Which of the following is controlled by the autonomic nervous system?
    a. respiration
Correct. This involuntary, yet crucial, process is controlled by the autonomic nervous system.
    b. reasoning
    c. reading
    d. reaching
    e. running
Incorrect. Running is a voluntary process, so it would be controlled by the somatic nervous system.

Difficulty: 2
Page Reference: 57
Topic: The Nervous System
Skill: Applied
Objective: 2.2

Answer: a. Respiration

79. The autonomic nervous system has two divisions, called the _____ and the _____.
    a. central; peripheral
    b. sympathetic; parasympathetic
    c. receptors; effectors
    d. limbic; endocrine
    e. afferent ends; efferent ends
Difficulty: 1
Page Reference: 57
Topic: The Nervous System
Skill: Factual
Objective: 2.2

Answer: b. sympathetic; parasympathetic

80. "Fight-or-flight" behavior is associated with
    a. the parasympathetic division.
    b. motor neurons.
    c. the sympathetic division.
    d. the somatic nervous system.

e. interneurons.

Difficulty: 2
Page Reference: 57
Topic: The Nervous System
Skill: Factual
Objective: 2.2

Answer: c. the sympathetic division.

81. The parasympathetic nervous system is a subdivision of
a. the somatic nervous system.
b. the sympathetic nervous system.
c. the central nervous system.
d. the autonomic nervous system.
e. the limbic system.

Difficulty: 2
Page Reference: 57-58
Topic: The Nervous System
Skill: Factual
Objective: 2.2

Answer: d. the autonomic nervous system.

82. _____ is an example of a sympathetic response.
a. Promoting your sexual development
b. Monitoring the operation of the body's routine functioning
c. Picking up a dime off the floor
d. Preparing yourself to fight an attacking dog
Correct. Remember that the sympathetic nervous system is sometimes referred to as the fight or flight system.
e. Figuring out the answer to a difficult test question
Incorrect. This would be under the control of the cerebrum, not the sympathetic nervous system.

Difficulty: 2
Page Reference: 57-58
Topic: The Nervous System
Skill: Applied
Objective: 2.2

Answer: d. Preparing yourself to fight an attacking dog

83. The branch of the autonomic nervous system that restores the body to normal functioning after arousal and is responsible for day-to-day functioning of the organs and

glands is called the
a. spinal cord.
b. somatic nervous system.
c. sympathetic nervous system.
d. parasympathetic nervous system.
e. idiopathic nervous system.
Difficulty: 1
Page Reference: 58
Topic: The Nervous System
Skill: Factual
Objective: 2.2

Answer: d. parasympathetic nervous system.

84. Malcolm is studying alone in his room late at night when he hears a loud noise downstairs. His heartbeat increases significantly and his breathing becomes shallow. He wonders if a burglar has entered the house and decides to investigate. When he gets downstairs he discovers his cat has knocked over a plant stand. His body begins to relax and return to normal. Which part of his nervous system is responsible for returning Malcolm to a normal state?
a. spinal cord
b. somatic nervous system
c. sympathetic nervous system
Incorrect. The sympathetic nervous system mobilizes the body in times of stress.
d. parasympathetic nervous system
Correct. The parasympathetic nervous system restores the body to normal functioning after arousal.
e. the corpus callosum
Difficulty: 2
Page Reference: 58
Topic: The Nervous System
Skill: Applied
Objective: 2.2

Answer: d. parasympathetic nervous system

85. The network of glands that manufacture and secrete hormones is referred to as the
a. neurotransmitter pathway.
b. nervous system.
c. hormonal network.
d. endocrine system.
e. myelin sheath.

Difficulty: 3
Page Reference: 58-59
Topic: The Endocrine System

Skill: Factual
Objective: 2.2

Answer: d. endocrine system.

86. Endocrine glands secrete this group of chemicals into the bloodstream:
    a. endorphins
    b. serotonin
    c. norepinephrine
    d. acetylcholine
    e. hormones

Difficulty: 3
Page Reference: 58-59
Topic: The Endocrine System
Skill: Factual
Objective: 2.2

Answer: e. hormones

87. Hormones are chemicals that are secreted and go directly into
    a. the bloodstream
    b. specific organs
    c. nerve endings
    d. the brain
    e. the glands
Difficulty: 1
Page Reference: 59
Topic: The Endocrine System
Skill: Factual
Objective: 2.2

Answer: a. the bloodstream

88. Hormones are chemicals secreted into the bloodstream by
    a. axon terminals.
    b. neurotransmitters.
    c. endocrine glands.
    d. synapses.
    e. dendritic terminals.

Difficulty: 3
Page Reference: 58-59
Topic: The Endocrine System
Skill: Factual
Objective: 2.2

Answer: c. endocrine glands.

89. The idea that the pituitary gland is the “master gland”

a. is completely accurate and appropriate.

Incorrect. The pituitary gland is controlled by the hypothalamus, so to suggest that calling it the master gland is completely accurate is something of a misnomer.

b. is completely inaccurate since it doesn’t control any other glands or related structures.

c. is true; yet, it is still controlled by the brain.

Correct. The pituitary gland can be thought of as the master of the endocrine system, but it is still controlled by the hypothalamus in the brain.

d. is a matter of debate since many other researchers refer to the adrenal gland as the “master gland.”

e. it is inaccurate, since the “pituitary” gland does not exist in higher animals. It is only found in lower species.

Difficulty: 2
Page Reference: 59
Topic: The Endocrine System
Skill: Conceptual
Objective: 2.2

Answer: c. is true; yet, it is still controlled by the brain.

90. The _____ is/are NOT considered to be an endocrine gland.

a. ovaries
b. hypothalamus
c. testes
d. pancreas
e. thyroid

Difficulty: 3
Page Reference: 60
Topic: The Endocrine System
Skill: Factual
Objective: 2.2

Answer: b. hypothalamus

91. The "master gland" is a term that refers to the

a. thalamus.
b. hypothalamus.
c. pituitary gland.
d. adrenal gland.
e. thyroid gland.

Difficulty: 2
Page Reference: 60
Topic: The Endocrine System
Skill: Factual
Objective: 2.2

Answer: c. pituitary gland.

92. The sexual desire of a woman is primarily determined by hormones produced by her
    a. thyroid.
    b. ovaries.
    c. posterior pituitary.
    d. adrenal glands.
    e. pancreas.

Difficulty: 3
Page Reference: 60
Topic: The Endocrine System
Skill: Factual
Objective: 2.2

Answer: d. adrenal glands.

93. Tim is overweight. His physician has decided to test him to see if there is a problem with the regulation of his metabolism. Which endocrine gland will be the focus of diagnostic testing?
    a. adrenal
Incorrect. The adrenal glands have nothing to do with metabolism. They secrete sex hormones and hormones that regulate salt intake.
    b. thymus
    c. thyroid
Correct. The thyroid gland regulates metabolism.
    d. pancreas
    e. pituitary
Difficulty: 3
Page Reference: 60
Topic: The Endocrine System:
Skill: Applied
Objective: 2.2

Answer: c. thyroid

94. Secretions from the thyroid gland control
    a. breast milk excretion.
    b. sperm production.
    c. stress reaction.

d. metabolism.
e. uterine contractions.

Difficulty: 3
Page Reference: 60
Topic: The Endocrine System
Skill: Factual
Objective: 2.2

Answer: d. metabolism.

95. The _____ is a brain component that regulates the endocrine system.
a. hypothalamus
b. pituitary gland
c. reticular formation
d. amygdala
e. adrenal cortex

Difficulty: 2
Page Reference: 60
Topic: The Endocrine System
Skill: Factual
Objective: 2.2

Answer: a. hypothalamus

96. Agonist is to antagonist as:
a. neuromodulator is to neurotransmitter.
b. reuptake is to receptor.
c. mimic is to block.
Correct. Agonists mimic neurotransmitters by stimulating specific receptor sites, and antagonists block receptor sites.
d. block is to mimic.
Incorrect. This is the opposite of the correct answer.
e. inhibit is to stimulate.
Difficulty: 2
Page Reference: 61
Topic: Psychology Matters: How Psychoactive Drugs Affect the Nervous System
Skill: Conceptual
Objective: 2.2

Answer: c. mimic is to block.

97. Which of the following is true of Prozac?
a. Prozac can cause changes in sleep, appetite, and thinking.
b. Amphetamine is another name for Prozac.

c. The effects of Prozac are specific to mood.
d. Prozac is an antagonist for dopamine receptors.
e. B and C are correct.

Difficulty: 2
Page Reference: 61
Topic: Psychology Matters: How Psychoactive Drugs Affect the Nervous System
Skill: Factual
Objective: 2.2

Answer: a. Prozac can cause changes in sleep, appetite, and thinking.

98. Phineas Gage tragically had a tamping iron propelled through his head. Both left and right sides of the prefrontal cortex were severely damaged. As a result of the accident, Phineas Gage
a. died from his injuries.
b. suffered loss of his arms and legs.
c. lost his sense of hearing.
d. suffered a change in personality.
e. suffered complex seizures for the rest of his life.

Difficulty: 1
Page Reference: 62
Topic: How Does the Brain Produce Behavior and Mental Processes?
Skill: Factual
Objective: 2.3

Answer: d. suffered a change in personality.

99. A device used to record brain waves that involves placing electrodes directly on the scalp is called a(n)
a. EEG.
b. PET.
c. GABA.
d. MRI.
e. RAS.

Difficulty: 2
Page Reference: 63
Topic: Windows on the Brain
Skill: Factual
Objective: 2.3

Answer: a. EEG.

100. _____ discovered that stimulating a specific brain area in an awake patient might lead to a particular body movement or sensory experience.

a. Rene Descartes
b. Walter Hess
c. Wilder Penfield
d. Paul Broca
e. Phineas Gage

Difficulty: 3
Page Reference: 64
Topic: Windows on the Brain
Skill: Factual
Objective: 2.3

Answer: c. Wilder Penfield

101. Which scanning method produces a computerized image of X-rays that have been passed through the brain at various angles?
a. PET scanning
b. CT scanning
c. MRI scanning
d. psychosurgery
e. neurosurgery

Difficulty: 2
Page Reference: 64
Topic: Windows on the Brain
Skill: Factual
Objective: 2.3

Answer: b. CT scanning

102. In the _____ procedure, a composite picture of brain activity is produced by sensing which areas of the brain show the highest concentration of a low-level radioactive glucose.
a. PET
b. CT
c. MRI
d. EEG
e. fMRI

Difficulty: 2
Page Reference: 64
Topic: Windows on the Brain
Skill: Factual
Objective: 2.3

Answer: a. PET

103. Libby's physician refers her to a medical center in order to have the biochemical activity in her brain analyzed. She is given an injection of a radioactive glucose-like substance and then is told to lie down with her head in a scanner. The technique being used is

a. positron emission tomography.

Correct. PET involves injecting a radioactive glucose into the patient.

b. functional magnetic resonance imaging.

Incorrect. fMRI does not involve injecting the patient with glucose.

c. microelectrode recording.

d. an electroencephalogram.

e. an electromyography.

Difficulty: 2
Page Reference: 64
Topic: Windows on the Brain
Skill: Applied
Objective: 2.3

Answer: a. positron emission tomography.

104. The scanning device that makes highly detailed pictures from tissue responses to powerful pulses of energy is the

a. CT.
b. PET.
c. MRI.
d. EEG.
e. RAS.

Difficulty: 2
Page Reference: 64
Topic: Windows on the Brain
Skill: Factual
Objective: 2.3

Answer: c. MRI.

105. A unique feature of the fMRI, as compared to the MRI, is the capacity to

a. detect cell activity throughout the brain.
b. measure the magnetic fields in the brain.
c. control brain activity by stimulating various brain regions.
d. take a detailed X-ray of the brain while the person is conscious.
e. distinguish more active tissues from less active ones.

Difficulty: 2
Page Reference: 64
Topic: Windows on the Brain

Skill: Factual
Objective: 2.3

Answer: e. distinguish more active tissues from less active ones.

106. Our ability to breathe is controlled by the _____ which is located within the _____.

a. medulla; brainstem
b. thalamus; forebrain
c. cerebellum; midbrain
d. brain stem; medulla
e. pons; forebrain

Difficulty: 2
Page Reference: 65-66
Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.2

Answer: a. medulla; brainstem

107. Nerve fibers that interconnect the left side of the brain to the right side of the body (and vice versa) cross over the brain midline at the

a. amygdala.
b. brainstem.
c. hypothalamus.
d. thalamus.
e. cerebrum.

Difficulty: 3
Page Reference: 66
Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: b. medulla.

108. This brain-stem structure regulates brain activity during sleep.

a. pons
b. amygdala
c. thalamus
d. pituitary gland
e. hippocampus

Difficulty: 2
Page Reference: 66

Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: a. pons

109. Since Jessica suffered a head injury in a car accident 3 months ago, she has not experienced dreams as she had in the past. She used to dream vivid, active dreams. Which part of her brain most likely was affected during the car accident which is related to her problem dreaming?

a. pons
Correct. The pons have been shown to influence sleep and dreaming as well as arousal.
b. cerebellum
c. cerebral cortex
d. pituitary gland
Incorrect. The correct answer is the pons.
e. medulla

Difficulty: 2
Page Reference: 66
Topic: Three Layers of the Brain
Skill: Applied
Objective: 2.3

Answer: a. pons

110. Arousal would be produced by _____ of the _____.

a. inactivation; cerebral cortex
b. inactivation; reticular formation
c. activation; reticular formation
d. activation; cerebellum
e. inactivation; cerebellum

Difficulty: 3
Page Reference: 66
Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: c. activation; reticular formation

111. Which sensory system does NOT relay information through the thalamus en route to the cortex?

a. pain
b. somatosensory
c. audition
d. vision

e. smell

Difficulty: 3
Page Reference: 66
Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: e. smell

112. Hearing a bird sing involves the transfer of auditory information from the ear through _____ en route to the auditory cortex.

a. the pons

b. the hypothalamus

Incorrect. The hypothalamus controls processes like thirst, hunger, and sexual activity. It is not involved in sensory reception.

c. the thalamus

Correct. The thalamus is a routing station through which four of the five sensory systems must send information on the way to the processing centers of the cerebrum.

d. the auditory hemisphere

e. Broca's area

Difficulty: 2
Page Reference: 66
Topic: Three Layers of the Brain
Skill: Applied
Objective: 2.3

Answer: c. the thalamus

113. The _____ is important for the human ability to tap dance and walk on a tightrope.

a. hypothalamus

b. thalamus

c. amygdala

d. cerebellum

Correct. The cerebellum is responsible for processes including fine motor control, balance, and coordination.

e. hippocampus

Incorrect. As your textbook states, the main process of the hippocampus is involved in memory functions.

Difficulty: 2
Page Reference: 66
Topic: Three Layers of the Brain
Skill: Applied

Objective: 2.3

Answer: d. cerebellum

114. Tracey has been unable to participate in her gymnastics class and is very uncoordinated since she was involved in an accident where she suffered a head injury. As a result of the accident, she was likely to have suffered damage to her

a. cerebellum.

Correct. This part of the brain controls coordination and balance.

b. medulla.

c. cerebral cortex.

d. hypothalamus.

Incorrect. This is not the correct part of the brain that controls these functions.

e. hippocampus.

Difficulty: 2
Page Reference: 66
Topic: Three Layers of the Brain
Skill: Applied
Objective: 2.3

Answer: a. cerebellum.

115. Research indicates that the cerebellum is involved in

a. decision making.

b. emotion.

c. digestion.

d. producing habitual responses.

e. memory.

Difficulty: 2
Page Reference: 66
Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: d. producing habitual responses.

116. The overall shape of the human limbic system resembles

a. a football.

b. a bulbous cap.

c. a seahorse.

d. a pair of ram's horns.

e. a golf ball.

Difficulty: 3
Page Reference: 66

Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: d. a pair of ram's horns.

117. Damage to the _____ would be expected to impair your ability to name three exciting news events that occurred after this damage to your brain.

a. hippocampus

Correct. The hippocampus is involved in the forming of new memories.

b. reticular formation

c. corpus callosum

Incorrect. The corpus callosum is a tough structure that connects the left and right cerebral hemispheres.

d. thalamus

e. hypothalamus

Difficulty: 3
Page Reference: 67
Topic: Three Layers of the Brain
Skill: Applied
Objective: 2.3

Answer: a. hippocampus

118. A person who has suffered damage to their hippocampus would be expected to have difficulty with

a. remembering newer information.

b. remembering events from his distant past.

c. concentrating on complex tasks.

d. controlling his temper.

e. moving in a smooth manner.

Difficulty: 3
Page Reference: 67
Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: a. remembering newer information.

119. A person whose hippocampus is damaged would probably struggle most with which of the following?

a. eating

b. attending college.

Correct. The hippocampus is very highly involved in the ability to form new memories,

so studying for college classes would be very difficult with a damaged hippocampus.

c. controlling emotions.

Incorrect. Emotions are controlled by different parts of the limbic system, and the frontal lobe of the cerebrum.

d. reasoning and planning for the future.

e. performing smooth movements.

Difficulty: 3
Page Reference: 67
Topic: Three Layers of the Brain
Skill: Applied
Objective: 2.3

Answer: b. attending college.

120. Which of the following situations is NOT processed primarily by the limbic system?

a. You remember how your grandmother's living room looked.

b. You get angry and want to hit a person who has just bumped into you.

c. You are feeling hungry because you have not eaten since yesterday.

d. You are trying to reason through a logic problem in math class.

Correct. Logical reasoning is controlled by the cerebral cortex, not the limbic system.

e. You feel sexually aroused by the good-looking person sitting next to you.

Incorrect. This response would be mediated by the hypothalamus, which is one of the structures of the limbic system.

Difficulty: 3
Page Reference: 67-68
Topic: Three Layers of the Brain
Skill: Applied
Objective: 2.3

Answer: d. You are trying to reason through a logic problem in math class.

121. A stroke that damages parts of your amygdala would be expected to

a. calm your angry disposition.

Correct. The amygdala is responsible for emotions including anger and fear.

b. stimulate an aggressive instinct.

c. increase your sexual desire.

d. erase important memories.

e. make you feel hungry.

Incorrect. Hunger would be controlled by the hypothalamus, which is a different part of the limbic system.

Difficulty: 3
Page Reference: 68
Topic: Three Layers of the Brain

Skill: Applied
Objective: 2.3

Answer: a. calm your angry disposition.

122. The _____ is involved in the regulation of feeding, drinking, and sexual behavior.
a. hippocampus
b. amygdala
c. hypothalamus
d. thalamus
e. medulla

Difficulty: 2
Page Reference: 68
Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: c. hypothalamus

123. The _____ is that part of the limbic system that maintains the body's internal states of balance.
a. cerebellum
b. reticular formation
c. hypothalamus
d. spinal cord
e. hippocampus

Difficulty: 2
Page Reference: 68
Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: c. hypothalamus

124. The _____ interconnects the two hemispheres of the cerebrum.
a. cerebellum
b. limbic system
c. cerebral cortex
d. corpus callosum
e. pituitary

Difficulty: 2
Page Reference: 68

Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: d. corpus callosum

125. The _____ of the brain account(s) for two-thirds of the brain's total mass.
a. frontal lobes
b. cerebral hemispheres
c. corpus callosum
d. hypothalamus
e. limbic system

Difficulty: 2
Page Reference: 68
Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: b. cerebral hemispheres

126. The _____ controls functions such as higher mental processing, including thinking and perceiving.
a. brain stem
b. cerebellum
c. spinal cord
d. cerebral cortex
e. limbic system

Difficulty: 2
Page Reference: 68-69
Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: d. cerebral cortex

127. One third of the _____ is visible on the brain's surface.
a. corpus callosum
b. cerebellum
c. cerebral cortex
d. thalamus
e. climacteric

Difficulty: 1
Page Reference: 69

Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: c. cerebral cortex

128. _____ developed the concept of _____.
a. B.F. Skinner; cerebral dominance
b. Gustav Fritz; germ theory
c. Wilder Penfield; cerebral dominance
d. Franz Gall; localization of function
e. Paul Broca; cortical processing styles

Difficulty: 3
Page Reference: 69
Topic: Lobes of the Cerebral Cortex
Skill: Factual
Objective: 2.3

Answer: d. Franz Gall; localization of function

129. Joella was rollerblading when a cat jumped right in front of her causing her to trip and fall. When she fell, she partially landed on the front side of her head near her forehead. Shortly afterwards, Joella exhibited symptoms similar to that of Phineas Gage. Which lobe would have been most affected by this fall?
a. frontal
Correct. Phineas Gage suffered extreme trauma to the frontal lobe of his brain, impacting all sorts of functions including his personality.
b. temporal
Incorrect. The famous story of Phineas Gage gave us insight into the functioning of the frontal lobe of the brain.
c. parietal
d. occipital
e. inguinal
Difficulty: 2
Page Reference: 69
Topic: Lobes of the Cerebral Cortex
Skill: Applied
Objective: 2.3

Answer: a. frontal

130. Damage to the _____ is the most likely explanation for a brain injury that has devastating effects on human action and personality.
a. central fissure
b. frontal lobes

c. lateral fissure
d. parietal cortex
e. temporal lobes

Difficulty: 2
Page Reference: 69
Topic: Lobes of the Cerebral Cortex
Skill: Factual
Objective: 2.3

Answer: b. frontal lobes

131. The action of grabbing your keys with your right hand is controlled by your
a. right somatosensory cortex.
b. left motor cortex.
Correct. Remember, that motor control occurs across the body.
c. association cortex.
d. frontal lobes.
e. right motor cortex.
Incorrect. The right motor cortex controls the left side of the body, and vice versa.

Difficulty: 3
Page Reference: 69-70
Topic: Lobes of the Cerebral Cortex
Skill: Applied
Objective: 2.3

Answer: b. left motor cortex.

132. _____ are fired when an animal performs an action or when the animal observes that same action being performed. For example, an infant will mimic the facial expressions of adults.
a. Mirror neurons
b. Statue neurons
c. Facial neurons
d. Observation neurons
e. Spinal neurons
Difficulty: 3
Page Reference: 70
Topic: Lobes of the Cerebral Cortex
Skill: Factual
Objective: 2.3

Answer: a. Mirror neurons

133. You are holding an ice cube in your left hand. You touch it and find that it is hard

and slick and cold. Soon the coldness becomes painful. Most of this information is processed in which cortex?

a. motor
b. association
c. somatosensory

Correct. The somatosensory cortex processes things like touch, temperature, and pain.

d. visual
e. temporal

Incorrect. The temporal lobe is primarily involved in auditory processing.

Difficulty: 2
Page Reference: 72
Topic: Lobes of the Cerebral Cortex
Skill: Applied
Objective: 2.3

Answer: c. somatosensory

134. The area at the back of the temporal lobe that is crucial in the ability to listen, process, and understand what others are saying is _____ area.

a. Broca's
b. Gall's
c. Wernicke's
d. Korsakoff's
e. Spiegelman's

Difficulty: 1
Page Reference: 72
Topic: Lobes of the Cerebral Cortex
Skill: Factual
Objective: 2.3

Answer: c. Wernicke's

135. Your temporal lobes are most important for processing of _____ signals.

a. olfactory (smell)
b. visual (sight)
c. auditory (sound)
d. tactile (touch)
e. gustatory (taste)

Difficulty: 2
Page Reference: 72
Topic: Lobes of the Cerebral Cortex
Skill: Factual
Objective: 2.3

Answer: c. auditory (sound)

136. _____ concluded that language ability depended on the functioning of structures in a specific region of the left frontal lobe.
a. Rene Descartes
b. Paul Broca
c. Phineas Gage
d. Charles Darwin
e. Roger Sperry

Difficulty: 2
Page Reference: 72
Topic: Lobes of the Cerebral Cortex
Skill: Factual
Objective: 2.3

Answer: b. Paul Broca

137. Vision is processed primarily in the _____ lobes.
a. frontal
b. temporal
c. parietal
d. occipital
e. lateral

Difficulty: 2
Page Reference: 72-73
Topic: Lobes of the Cerebral Cortex
Skill: Factual
Objective: 2.3

Answer: d. occipital

138. The visual cortex is comprised of the visual processing areas in the
a. temporal lobes.
b. occipital lobes.
c. parietal lobes.
d. Both B and C
e. Both A and B

Difficulty: 3
Page Reference: 72-73
Topic: Lobes of the Cerebral Cortex
Skill: Factual
Objective: 2.3

Answer: e. Both A and B

139. The _____ cortex is most likely involved in making a decision as to whether we want to ask an attractive person out for a date.

a. auditory
b. parietal
c. somatosensory
d. association

Correct. The association cortex helps with multiple processes, including decision-making.

e. motor

Incorrect. As the name suggests, the motor cortex is involved in muscular control and movement.

Difficulty: 2
Page Reference: 73
Topic: Lobes of the Cerebral Cortex
Skill: Applied
Objective: 2.3

Answer: d. association

140. Spatial orientation appears to be a function of the brain's _____ hemisphere.

a. right
b. left
c. visual
d. temporal
e. central

Difficulty: 2
Page Reference: 73
Topic: Cerebral Dominance
Skill: Factual
Objective: 2.3

Answer: a. right

141. _____ refers to the tendency for each hemisphere of the brain to take control of different functions.

a. Neurotransmission
b. Homeostasis
c. Cortical transmission
d. Cerebral dominance
e. Spatial orientation

Difficulty: 1

Page Reference: 73
Topic: Cerebral Dominance
Skill: Factual
Objective: 2.3

Answer: d. Cerebral dominance

142. Researchers have determined that the processing style of the _____ hemisphere is more _____ than the _____ hemisphere.
a. left; analytical; right
b. right; analytical; left
c. right; specialized for language; left
d. left; specialized for music; right
e. left; spatially-oriented; right

Difficulty: 3
Page Reference: 74
Topic: Cerebral Dominance
Skill: Factual
Objective: 2.3

Answer: a. left; analytical; right

143. In most people, _____ of the brain is(are) most involved in visual and spatial activities.
a. the right side
b. the left side
c. neither side
d. the lower surface
e. rear aspect

Difficulty: 2
Page Reference: 74
Topic: Cerebral Dominance
Skill: Factual
Objective: 1.2

Answer: a. the right side

144. Researcher Roger Sperry won a Nobel prize for his research on epilepsy. Sperry cut through the _____ which joins the two hemispheres of the brain.
a. medulla
b. pons
c. pituitary gland
d. corpus callosum
e. cerebral cortex

Difficulty: 1
Page Reference: 75-76
Topic: Cerebral Dominance
Skill: Factual
Objective: 2.3

Answer: d. corpus callosum

145. Gazzaniga suggests that we think of the human mind as neither a single nor a dual entity but rather as a

a. confederation of minds.

Correct. This is the correct term that Gazzaniga used.

b. consolidation of minds.

Incorrect. This is not a term that Gazzaniga used to describe the way the mind works

c. confabulation of minds.

d. consequence of minds.

e. continuation of minds.

Difficulty: 3
Page Reference: 77
Topic: Cerebral Dominance
Skill: Conceptual
Objective: 4.4

Answer: a. confederation of minds.

146. The notion that we use only ____ percent of our brains is false and came about during a time when neuroscientists lacked not only the technology but had not figured out the functions of many coritical areas.

a. 5

b. 10

Correct. Have you ever heard the old saying that human beings only use 10% of their brains? It is, in fact, very inaccurate.

c. 15

d. 20

e. 25

Incorrect. This is not the saying, and human beings use far more than a quarter of their brains.

Difficulty: 3
Page Reference: 79
Topic: Psychology Matters: Using Psychology to Learn Psychology
Skill: Conceptual
Objective: 2.3

Answer: b. 10

2.0 - Chapter 02 Completion

1. Which specialty studies the interaction of biology, behavior, and mental processes?

Difficulty: 1
Page Reference: 42
Topic: Introduction
Skill: Factual
Objective: 2.1

Answer: biopsychology

2. The theory of _____ contends that some members of a species tend to produce more offspring than others because the natural environmental conditions are more conducive to that species.

Difficulty: 2
Page Reference: 44
Topic: Evolution and Natural Selection
Skill: Conceptual
Objective: 2.1

Answer: a. natural selection

3. _____ results from an extra 21st chromosome.

Difficulty: 2
Page Reference: 47
Topic: Genetics and Inheritance
Skill: Factual
Objective: 2.1

Answer: a. Down syndrome

4. Describe the process of synaptic transmission.

Difficulty: 3
Page Reference: 53
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: Action potentials at the axon terminal release transmitter molecules into the cleft; which in turn activate receptors on the adjacent neuron.

5. Dopamine, serotonin, and norepinephrine are three examples of _____ .

Difficulty: 2
Page Reference: 54
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: a. neurotransmitters

6. Which endocrine glands produce hormones that energize your body for "fight-or-flight" responses?

Difficulty: 2
Page Reference: 56
Topic: The Endocrine System
Skill: Factual
Objective: 2.3

Answer: adrenal glands

7. When you type on a computer keyboard, which division of your nervous system sends the instructions that control your fingers?

Difficulty: 2
Page Reference: 57
Topic: The Nervous System
Skill: Applied
Objective: 2.3

Answer: somatic

8. When you walk on a balance beam, which neural structure helps you maintain your equilibrium?

Difficulty: 2
Page Reference: 66
Topic: Three Layers of the Brain
Skill: Applied
Objective: 2.3

Answer: cerebellum

9. The two halves of the cerebral cortex are called the _____ .

Difficulty: 1
Page Reference: 68
Topic: Three Layers of the Brain
Skill: Factual
Objective: 2.3

Answer: a. (cerebral) hemispheres

10. After being hit in the head by a baseball, Beverly had problems with cognitive functioning, especially planning. Which of her cortical lobes was most likely affected by this injury?

Difficulty: 2
Page Reference: 69-70
Topic: Lobes of the Cerebral Cortex
Skill: Applied
Objective: 2.3

Answer: frontal lobe

11. Damage to the _____ of the brain can result in problems with spatial orientation.

Difficulty: 2
Page Reference: 74
Topic: Cerebral Dominance
Skill: Factual
Objective: 2.3

Answer: a. right hemisphere

3.0 - Chapter 02 Essay

1. How does Down syndrome occur and what are the repercussions of the disorder?

Difficulty: 2
Page Reference: 47
Topic: Genetics and Inheritance
Skill: Applied
Objective: 2.1

Answer: It is caused by an extra 21st chromosome. The disorder involves impairment in both psychomotor and physical development, as well as mental retardation. Currently, there is no cure for Down syndrome. Persons with Down syndrome are capable of considerable learning if given life skills training.

2. Describe the structures and the function of the neuron.

Difficulty: 2
Page Reference: 50-55
Topic: The Neuron: Building Block of the Nervous System
Skill: Factual
Objective: 2.2

Answer: The major parts of the neuron include the dendrite, soma, axon, terminal buttons (which contain neurotransmitters), and myelin sheath. Neurons function to transmit electrical signals, in the form of an action potential within the neuron and to transmit chemical signals between neurons. An exceptional answer might also include mention of the three major types of neurons, which are sensory (afferent) neurons, motor (efferent) neurons, and interneurons.

3. Compare the endocrine and nervous systems in terms of how they communicate information throughout the body.

Difficulty: 2
Page Reference: 56-60
Topic: The Nervous System
Skill: Factual
Objective: 2.2

Answer: The endocrine system secretes hormones into the bloodstream which reach many distant target organs, whereas the faster-acting nervous system relays information to and from the brain and spinal cord. Nerve transmitters have a more focused action.

4. Explain how psychoactive drugs work in the brain and explain why each drug has important side effects.

Difficulty: 2
Page Reference: 60-61
Topic: How Psychoactive Drugs Affect the Nervous System
Skill: Factual
Objective: 2.2

Answer: Psychoactive drugs generally interact with neuron-signaling pathways. Such drugs can increase the release of transmitter molecules into the cleft or can block transmitter reuptake (both of which will increase the synaptic transmitter level). A second mechanism involves the drug directly activating/inactivating postsynaptic receptors. Because a single transmitter may be used in multiple brain pathways, a drug that passes throughout the brain may generate multiple behavioral effects.

5. Discuss the phenomenon of cerebral dominance and contrast the specialized functions of each of the two cerebral hemispheres.

Difficulty: 2
Page Reference: 73-77
Topic: Cerebral Dominance
Skill: Factual
Objective: 2.3

Answer: The student should note that although the two hemispheres (halves) of the brain appear to be mirror images, each has specialized functions. For example, vocabulary, memory for words and numbers, anxiety and emotion, and movement sequences are mainly controlled by the left hemisphere. Conversely, the right hemisphere controls such tasks as facial recognition, music and shape memory, and emotional responsiveness.