Chapter 2: Neuroscience and Behavior

1. Psychologists who specialize in considering the ways in which the biological structures and functions of the body affect behavior are known as_____.

   A. genetic psychologists

   B. biopsychologists

   C. evolutionary psychologists

   D. clinical neuropsychologists

2. Alison has developed an interest in the ways in which the biological structures and functions of the body affect behavior. She will most likely become a(n):

   A. genetic psychologist.

   B. behavioral neuroscientist.

   C. evolutionary psychologist.

   D. clinical neuropsychologist.

3. The basic elements of the nervous system are called:

   A. axons.

   B. glial cells.

   C. neurons.

   D. neurotransmitters.

4. As many as_____neurons throughout the body are involved in the control of behaviour.

A. 1 billion

B. 1 trillion

C. 5 million

D. 50 million

5. Neurons are physically held in place by_____.

A. axons

B. glial cells

C. dendrites

D. myelin cells

6. Which of the following is NOT one of the functions of glial cells?

A. They nourish nerve cells.

B. They communicate messages within the nervous system.

C. They help repair damage that might occur to neurons.

D. They provide nourishment to neurons.

7. A cluster of fibers at one end of a neuron that receives messages from other neurons is called:

A. axon.

B. terminal button.

C. glial fiber.

D. dendrite.

8. An axon is a(n):

   A. neuron's cell body.
   B. cluster of fibers at one end of a neuron.
   C. support cell in the nervous system.
   D. long, slim, tubelike structure extending from a neuron.

9. Which of the following structures is especially important for carrying messages received by the dendrites to other neurons?

   A. Neurotransmitter
   B. Synapse
   C. Axon
   D. Glial cell

10. Terminal buttons are found at the end of:

   A. neurotransmitters.
   B. dendrites.
   C. axons.
   D. glial cells.

11. Which of the following sequences correctly arranges nervous system structures from the most general to the most specific?

A. Neuron → axon → terminal button
B. Neuron → terminal button → axon
C. Axon → terminal button → neuron
D. Axon → neuron → terminal button

12. Dendrite is to axon what_____is to_____.

A. receiving; sending
B. sending; receiving
C. reuptake; action potential
D. action potential; reuptake

13. Which of the following sequences accurately reflects the route followed by nerve impulses when one neuron communicates with another?

A. Dendrite → axon → cell body
B. Dendrite → cell body → axon
C. Cell body → axon → dendrite
D. Axon → dendrite → cell body

14. Electrical wires are generally protected by a tube of plastic. A similar insulating function is performed in the nervous system by the:

A. myelin sheath.
B. glial cells.
C. terminal buttons.
D. synapse.

15. _____is a protective coat of fat and protein that wraps around the axon.

A. Myelin sheath
B. Glial cell
C. Dendrite
D. Synapse

16. You cannot fire a gun softly, or flush a toilet halfway. Like an action potential, gun fire and a toilet's flush follow the_____law.

A. incremental transformation
B. graded action
C. all-or-none
D. intensity of stimulus

17. The rule that neurons are either on or off is known as the_____law.

A. intensity of stimulus
B. graded action
C. all-or-none
D. incremental transformational

18. The state in which there is a negative electrical charge of about -70 millivolts within a neuron is known as the_____state.

A. triggering
B. terminal
C. optimum
D. resting

19. Regarding action potentials, which of the following statements is TRUE?

A. As the impulse travels along the axon, the movement of ions causes a change in charge from positive to neutral in successive sections of the axon.
B. The action potential moves from one end of the axon to the other like a flame moving along a fuse.
C. After the impulse has passed through a particular section of the axon, negative ions are pumped out of that section, and its charge returns to positive while the action potential continues to move along the axon.
D. Just after an action potential has passed through a section of the axon, a neuron can fire again immediately if it receives appropriate stimulation.

20. As an action potential occurs, the neuron's electrical charge:

A. changes from negative to neutral.
B. changes from positive to neutral.
C. changes from negative to positive.
D. changes from positive to negative.

21. _____are specialized neurons that fire not only when a person enacts a particular behavior, but also when a person simply observes another individual carrying out the same behavior.

A. Pharyngeal motorneuron
B. Mirror neurons
C. Ventral cord motor neuron
D. Amphid neurons

22. Regarding mirror neurons, which of the following statements is ACCURATE?

A. Mirror neurons are involved in face recognition and language acquisition, but not in empathy.
B. Mirror neurons are involved in empathy and face recognition, but not in language acquisition.
C. Mirror neurons are involved in empathy, language acquisition, and face recognition.
D. Mirror neurons are involved in empathy and language acquisition, but not in face recognition.

23. A synapse is a(n):

A. chemical.
B. signal.
C. joint.
D. gap.

24. _____is the space between two neurons where the axon of a sending neuron communicates with the dendrites of a receiving neuron by using chemical messages.

A. Synapse
B. Terminal button
C. Axon
D. Cell body

25. Which of the following statements regarding inhibitory messages is TRUE?

A. Inhibitory messages always increase the likelihood that a receiving neuron will fire.
B. Inhibitory messages decrease the likelihood that a receiving neuron will fire.
C. The dendrites of a neuron cannot receive both excitatory and inhibitory messages simultaneously.
D. Inhibitory messages make it more likely that an action potential will travel down its axon.

26. The reabsorption of neurotransmitters by a terminal button is termed as:

A. recycling.
B. reassertion.
C. reuptake.
D. reuse.

27. Which neurotransmitter is described INCORRECTLY?

A. Acetylcholine—transmits messages related to skeletal muscles
B. GABA—an excitatory neurotransmitter inhibited by alcohol or tranquilizers
C. Serotonin—helps regulate sleep and mood
D. Glutamate—plays a role in memory

28. The neurotransmitter dopamine is involved in:

A. the brain's effort to deal with pain.
B. Alzheimer's disease.
C. the regulation of sleep, eating, mood, and pain.
D. movement, attention, and learning.

29. Which neurotransmitter is CORRECTLY matched with a psychological function?

A. Relief of pain—glutamate
B. Regulates mood—acetylcholine
C. Facilitates learning—dopamine
D. Contributes to memory—serotonin

30. Which disorder is CORRECTLY paired with an associated neurotransmitter?

A. Parkinson's disease: dopamine
B. Depression: glutamate
C. Schizophrenia: serotonin
D. Alzheimer's disease: endorphins

31. Inhibitory is to excitatory what_____is to_____.

A. glutamate; GABA
B. glutamate; acetylcholine
C. GABA; glutamate
D. endorphins; GABA

32. Which expression below most closely approximates the number of neural connections in the brain?

A. 10 quadrillion
B. 1 million
C. 1 billion
D. 1 trillion

33. The nervous system is divided into the_____and the_____nervous systems.

A. primary; secondary
B. somatic; autonomic
C. sympathetic; parasympathetic
D. central; peripheral

34. The brain and the spinal cord constitute the_____nervous system.

A. central
B. peripheral
C. extraneous
D. parasympathetic

35. _____is an automatic, involuntary response to an incoming stimulus.

A. Action potential

B. Intuition

C. Instinct

D. Reflex

36. The_____is the main means for transmitting messages between the brain and the body.

A. cortex

B. medulla

C. axon

D. spinal cord

37. Which of the following is TRUE of the spinal cord's control of behavior?

A. The spinal cord cannot control any behaviors without the help of the brain.

B. The spinal cord is not involved in reflexes.

C. The spinal cord can control some simple reflexes without the brain's help.

D. The spinal cord can control relatively complex behavior without the brain's help.

38. The central nervous system is composed of_____. The peripheral nervous system comprises _____.

A. the somatic and autonomic nervous systems; the sympathetic and parasympathetic nervous systems
B. the somatic and autonomic nervous systems; the brain and the spinal cord
C. the sympathetic and parasympathetic nervous systems; the somatic and autonomic nervous systems
D. the brain and the spinal cord; the somatic and autonomic nervous systems

39. Sensory is to motor what_____is to_____.

A. efferent; afferent
B. afferent; efferent
C. afferent; interneuron
D. interneuron; efferent

40. _____are neurons that connect sensory and motor neurons, carrying messages between the two.

A. Mirror neurons
B. Amphid neurons
C. Interneurons
D. Autoneurons

41. The two major divisions of the peripheral nervous system are the_____and_____divisions.

A. somatic; autonomic

B. sympathetic; parasympathetic

C. afferent; efferent

D. sensory; motor

42. _____is the part of the peripheral nervous system that specializes in the control of voluntary movements and the communication of information to and from the sense organs.

A. Somatic division

B. Sympathetic division

C. Parasympathetic division

D. Autonomic division

43. Somatic is to autonomic what_____is to_____.

A. involuntary; voluntary

B. voluntary; involuntary

C. excitation; rest

D. rest; excitation

44. The part of the autonomic division of the nervous system that acts to prepare the body for action in stressful situations, engaging all the organism's resources to respond to a threat is known as the_____.

A. somatic division
B. sympathetic division
C. parasympathetic division
D. apathetic division

45. The "fight-or-flight" response is associated with the_____division.

A. somatic
B. sympathetic
C. parasympathetic
D. apathetic

46. The part of the autonomic division of the nervous system that acts to calm the body after an emergency has ended is known as the_____division.

A. somatic
B. sympathetic
C. parasympathetic
D. apathetic

47. The_____division also directs the body to store energy for use in emergencies.

A. somatic
B. sympathetic
C. parasympathetic
D. apathetic

48. Which of the following situations is most likely to involve the action of the parasympathetic nervous system?

A. Brooke's finger accidentally grazes the hot iron; she immediately jerks her hand away.
B. After mistaking her roommate for a thief, Callum relaxes with a glass of water.
C. Walking toward her car in a deserted parking lot one night, Danica is surprised by a strange man appearing from nowhere.
D. Peyton is preparing to go to bed and is alarmed to see a stranger at her window.

49. With respect to its potential basis in nervous system activity, "voodoo death" has been attributed to:

A. an overactive sympathetic nervous system.
B. an overactive parasympathetic nervous system.
C. the cessation of sympathetic nervous system responses.
D. an understimulated central nervous system.

50. Izzy sees a leopard in her backyard. Her pupils are dilated and her heart is pounding; her breathing is shallow and rapid. Her_____nervous system is active.

A. parasympathetic
B. sympathetic
C. apathetic
D. somatic

51. Which of the following terms best describes the organization of the nervous system today?

A. Linear
B. Recursive
C. Hierarchical
D. Random

52. The branch of psychology that seeks to identify behavior patterns that are a result of our genetic inheritance from our ancestors is known as_____.

A. social psychology
B. health psychology
C. clinical psychology
D. evolutionary psychology

53. Evolutionary psychologists have spawned a new and increasingly influential field:

A. social psychology.
B. health psychology.
C. molecular genetics.
D. behavioral genetics.

54. The study of the effects of heredity on how people conduct themselves is known as_____.

A. behavioral genetics
B. classical genetics
C. development genetics
D. molecular genetics

55. Dr. Schilling is investigating the potential genetic basis of antisocial personality disorder by examining the relative prevalence of the disorder among either identical or fraternal twins, raised either together or in different families. Dr. Schilling is best described as a_____.

A. behavioral geneticist
B. classical geneticist
C. development geneticist
D. molecular geneticist

56. Which of the following statements best expresses the relationship between the nervous system and the endocrine system?

A. They operate entirely independently.
B. The endocrine system is part of the central nervous system.
C. The endocrine system influences and is influenced by the central nervous system.
D. The central nervous system is one part of the endocrine system.

57. A key component of the endocrine system is the tiny_____gland, which is found near—and regulated by—the_____in the brain.

A. adrenal; hippocampus
B. pituitary; hippocampus
C. adrenal; hypothalamus
D. pituitary; hypothalamus

58. The_____gland is a major component of the endocrine system which secretes hormones that control growth and other parts of the endocrine system.

A. esophageal
B. apocrine
C. parotid
D. pituitary

59. The_____gland has sometimes been called the "master gland" because it controls the functioning of the rest of the endocrine system.

A. pituitary
B. esophageal
C. apocrine
D. parotid

60. The hormone oxytocin has been implicated in each of the following behaviors EXCEPT the:

A. urge to nurse newborn infants.
B. desire to seek or respond to potential sexual partners.
C. development of trust in others.
D. tendency to produce violent, dangerous behavior.

61. Which of the following glands or structures is CORRECTLY matched with the hormone it produces?

A. Pineal gland; oxytocin
B. Pancreas; insulin
C. Medulla; melatonin
D. Pituitary gland; aldosterone

62. Which of the following hormones is CORRECTLY matched with its function?

A. Aldosterone - regulates daily rhythms
B. Erythropoietin - regulates the sodium and potassium balance in the blood
C. Adipokines - regulate the production of red blood cells
D. Parathyroid hormone - increases blood calcium

63. Which of the following statements is TRUE regarding hormone replacement therapy as a treatment for menopausal symptoms?

A. It is used less frequently now than in the past.
B. It is the only treatment that does not have any side effects.
C. Its benefits outweigh its risks.
D. It has become increasingly popular.

64. Which of the following is NOT a brain scanning technique?

A. Electroencephalogram (EEG)
B. Electromyogram (EMG)
C. Positron emission tomography (PET)
D. Transcranial magnetic stimulation (TMS)

65. Which brain imaging technique below is CORRECTLY matched with its description?

A. EEG—records the brain's electrical activity with electrodes
B. PET—causes a momentary interruption of the brain's electrical activity
C. fMRI—traces biochemical activity in the brain
D. TMS—produces a graph of electrical wave patterns

66. Which brain imaging technique below is INCORRECTLY matched with its diagnostic use?

A. EEG–facilitates the diagnosis of epilepsy and learning disorders
B. PET–may help identify brain tumors
C. fMRI–improves diagnosis of strokes and multiple sclerosis
D. TMS–facilitates the diagnosis of nervous system disorders such as Alzheimer's disease

67. Brent is taking part in an experiment in the cognitive neuroscience lab on campus. Silently, he reads rapid sequences of words flashed on a computer screen. Simultaneously, the electrical activity of his brain is recorded through skull electrodes. The brain scanning technique used in this study is:

A. fMRI.
B. PET.
C. EEG.
D. TMS.

68. The newest brain scanning technique which is popularly used is:

A. PET.
B. EEG.
C. TMS.
D. fMRI.

69. Marisol is trying a new treatment for severe depression. Brief magnetic pulses are sent through her brain. Marisol is undergoing:

A. optogenetic therapy.
B. transcranial magnetic stimulation.
C. positron emission tomography.
D. functional magnetic resonance imaging.

70. Soon, it may be possible to view the activity of individual neural circuits, due to the emerging field of:

A. optogenetics.
B. synaptic reflectance.
C. neurogenetics.
D. transcranial magnetic stimulation.

71. Which of the following structures is NOT part of the brain's central core?

A. Hippocampus
B. Cerebellum
C. Pons
D. Reticular formation

72. The hindbrain includes each of the following structures EXCEPT the:

A. medulla.
B. thalamus.
C. pons.
D. cerebellum.

73. The part of the brain closest to the spinal cord is the_____; it is important for such functions as _____.

A. cerebellum; maintaining body temperature
B. cerebellum; heart rate and respiration
C. medulla; maintaining body temperature
D. medulla; heart rate and respiration

74. The pons serves to:

A. regulate arousal.
B. relay sensory information to the brain's association areas.
C. integrate movement between the left and right halves of the body.
D. consolidate memories.

75. The part of the brain that controls bodily balance is the_____.

A. hypothalamus
B. thalamus
C. reticular formation
D. cerebellum

76. Yves has been drinking. He has difficulty walking a straight line when asked to do so by a police officer. Apparently, Yves'_____is functioning poorly.

A. thalamus
B. cerebellum
C. corpus callosum
D. reticular formation

77. The part of the brain extending from the medulla through the pons and made up of groups of nerve cells that can immediately activate other parts of the brain to produce general bodily arousal is known as the_____.

A. reticular formation
B. thalamus
C. cerebellum
D. limbic system

78. The thalamus may be likened to a(n):

A. amplifier.
B. receiver.
C. filter.
D. relay station.

79. The_____is the part of the brain that is located in the middle of the central core and acts primarily to relay information about the senses.

A. thalamus
B. cerebellum
C. hypothalamus
D. amygdala

80. The_____is a tiny part of the brain that maintains homeostasis and produces and regulates vital behavior, such as eating, drinking, and sexual behavior.

A. medulla
B. cerebellum
C. amygdala
D. hypothalamus

81. Pizza! Beer! Sex! Our motivation or drive for such things is based on the activity of the brain region known as the:

A. hypothalamus.
B. thalamus.
C. hippocampus.
D. amygdala.

82. The_____maintains a steady internal environment for the body.

A. thalamus
B. amygdala
C. hypothalamus
D. hippocampus

83. The_____in the brain contributes to the body's maintenance of a steady internal physiological state, called_____.

A. thalamus; homeostasis
B. hypothalamus; homeostasis
C. hippocampus; equilibrium
D. thalamus; equilibrium

84. The limbic system contains which of the following structures?

A. Amygdala
B. Pons
C. Thalamus
D. Corpus callosum

85. The structures of the_____jointly control a variety of basic functions relating to emotions and self-preservation such as eating, aggression, and reproduction.

A. central core of the brain
B. endocrine system
C. limbic system
D. cerebral cortex

86. Darnell underwent surgery to control his severe epilepsy. Now, however, Darnell cannot form new memories of his experiences, although he does remember events in the past. Most likely, the surgery destroyed a portion of the_____in Darnell's brain.

A. amygdala
B. striatum
C. medulla
D. hippocampus

87. The_____is referred to as the "new brain."

A. hindbrain
B. limbic system
C. cerebral cortex
D. central core

88. Which of the following sequences correctly identifies the orders of the lobes of the cortex, from anterior to posterior?

A. Frontal → temporal and parietal → posterior
B. Occipital → temporal and parietal → frontal
C. Frontal → occipital → temporal and parietal
D. Frontal → temporal and parietal → occipital

89. In which lobe is the motor area located?

A. Occipital
B. Frontal
C. Parietal
D. Temporal

90. The_____area is part of the cortex that is largely responsible for the body's voluntary movement.

A. attribution
B. sensory
C. motor
D. association

91. In a neurophysiological investigation, a monkey makes an involuntary gesture when a portion of its brain is electrically stimulated. The area of the brain that was most likely stimulated is the:

A. parietal lobe.
B. frontal lobe.
C. temporal lobe.
D. occipital lobe.

92. The_____area is the site in the brain of the tissue that corresponds to each of the senses, with the degree of sensitivity related to the amount of tissue.

A. attribution
B. sensory
C. motor
D. association

93. The somatosensory area is to the auditory area what the_____lobe is to the_____lobe.

A. temporal; parietal
B. parietal; occipital
C. occipital; parietal
D. parietal; temporal

94. The visual area in the cortex is located in the_____.

A. frontal lobe
B. occipital lobe
C. temporal lobe
D. parietal lobe

95. The brain injury suffered by 19th-century railroad worker Phineas Gage allowed psychologists to learn about the functions of the brain's:

A. association areas.
B. central core.
C. limbic system.
D. sensory areas.

96. The_____areas are considered to be the site of higher mental processes such as thinking, language, memory, and speech.

A. sensory
B. attribution
C. motor
D. association

97. Which of the following is NOT an executive function?

A. Recalling information
B. Setting goals
C. Controlling impulses
D. Making judgments

98. Violet's speech is slow and labored; however, she can understand others' speech. Violet has:

A. Broca's aphasia.
B. Wernicke's aphasia.
C. dyslexia.
D. dyscalculia.

99. Warren suffers from Wernicke's aphasia. Which of the following will he experience in thought or behavior?

A. Warren will experience an inability to recognize faces.
B. Warren will have difficulty recognizing objects visually.
C. Warren will have trouble producing fluent speech.
D. Warren will experience difficulty understanding language.

100. The process by which the brain reorganizes itself throughout development is termed:

A. neuroformation.
B. neuroplasticity.
C. neuroadaptation.
D. neuromutability.

101._____is the creation of new neurons.

A. Neurogenesis
B. Neuroadaptation
C. Neuromutability
D. Neuropathy

102.Neurogenesis is especially evident in brain areas related to learning and memory. Based on this statement, you might expect neurogenesis to be particularly prevalent in the brain's:

A. thalamus.
B. cerebellum.
C. hippocampus.
D. hypothalamus.

103.Which of the following is TRUE about the brain?

A. New research has confirmed that no new brain cells are created after childhood.
B. The interconnections between neurons become less complex throughout life.
C. Specific experience can modify the way in which information is processed.
D. The brain does not have the ability to shift functions to different locations in cases of surgery.

104. The use of stem cells in research and treatment remains controversial because stem cells come from:

A. nonhuman species.
B. aborted fetuses.
C. genetic engineering in the laboratory.
D. paid adult donors.

105. Which of the following statements is most accurate with respect to the lateralization of language?

A. It is most likely left-lateralized.
B. It is most likely right-lateralized.
C. The control of language is shared equally between the hemispheres.
D. The lateralization of language varies dramatically from one person to another.

106. Trevor is scratching his head, trying desperately to solve a verbal analogy as part of a standardized entrance examination; Sienna, meanwhile, is giving an oral presentation in a political science class. Of the brain's hemispheres, Trevor's_____hemisphere is most active; Sienna's_____hemisphere is most active.

A. right; right
B. left; left
C. right; left
D. left; right

107. Kate has suffered right-hemisphere damage. Which of the following processes is LEAST likely to be affected?

A. Achieving *feng shui* in her living room by rearranging the couch and the TV
B. Balancing her checkbook
C. Reading that look on her boyfriend's face
D. Thinking that a new song on the radio is really catchy

108. The hemispheres of the brain are connected by a bundle of fibers called the:

A. corpus callosum.
B. corpus cerebellum.
C. central sulcus.
D. cerebral cortex.

109. Ramona is a woman. Stefan is a man. Which of the following statements is TRUE regarding potential differences in the corpus callosum between these two individuals?

A. Stefan's corpus callosum is probably the same size as Ramona's.
B. Ramona's corpus callosum is larger than Stefan's.
C. Ramona's corpus callosum is slightly smaller than Stefan's.
D. Stefan's corpus callosum is much larger than Ramona's.

110. Which of the following generalizations is probably most accurate regarding potential gender differences in the lateralization of language?

A. No gender differences in the lateralization of language have been found.
B. Language is more strongly left-lateralized among females than among males.
C. Language is more strongly left-lateralized among males than among females.
D. The lateralization of language is variable from one person to another.

111. People whose corpus callosum has been surgically cut to stop seizures are called_____.

A. deep-brain patients
B. dual brain patients
C. split-brain patients
D. bicameral patients

112. Mrs. Simon has learned to lessen the pain associated with her migraine headaches by voluntarily relaxing specific muscles and reducing her blood pressure. This example illustrates:

A. deep-brain stimulation.
B. biofeedback.
C. split-brain control.
D. transcranial stimulation.

113. The_____is an insulating coat of fat and protein wrapped around an axon.

_____

114. According to the_____law neurons are either on or off.

_____

115. At the cellular level, our ability to empathize with others may reflect the activity of_____neurons.

_____

116._____is a chemical message that prevents or decreases the likelihood that a receiving neuron will fire.

_____

117. After a long run, Aaron sometimes experiences a feeling of euphoria, a "runners' high" reflecting the activity of neurotransmitters called_____.

_____

118._____neurons transmit information from the perimeter of the body to the central nervous system.

_____

119. The somatic nervous system regulates voluntary movement; in contrast, the_____nervous system underlies involuntary movement.

_____

120. Arif's heart rate and respiration are slowing, and his dilated pupils are contracting. His _____ nervous system has become active.

_____

121._____is the branch of psychology that seeks to identify how behavior is influenced and produced by our genetic inheritance from our ancestors.

_____

122.The tiny_____gland is known as the "master gland."

_____

123.A technique called_____records the brain's electrical activity through electrodes.

_____

124.Wilma has been experiencing memory difficulties, and her doctor is concerned that Wilma may have a brain tumor. He recommends a(n)_____to confirm his diagnosis.

_____

125.Extending from the medulla, through the midbrain, into the forebrain is the_____, which serves to regulate general bodily arousal.

_____

126.Information travels from our sensory receptors to the_____in the brain, which relays it to higher association areas.

_____

127.The amygdala and hippocampus are found within the brain's_____system.

_____

128. Epileptics have sometimes had portions of their limbic system removed. Subsequent memory problems may reflect damage to the_____.

_____

129. The cortex has four major sections called_____.

_____

130. The_____area in the parietal lobe encompasses specific locations associated with the ability to perceive touch and pressure in a particular area of the body.

_____

131. New neurons are created even during adulthood, in a process called_____.

_____

132. Vance has learned to voluntarily control the activation of his autonomic nervous system as part of the treatment for an anxiety disorder. This is an example of_____.

_____

133. Draw a typical neuron and label its major parts accurately. Briefly identify the functions of the parts labeled on your diagram.

134. Briefly discuss what mirror neurons are, how they work and what implications this recent discovery may hold for future research. What are the evolutionary implications for mirror neurons existence?

135. Outline the sequence of events that occurs at the synapse when a neural message is communicated.

136. What are neurotransmitters?

137. Identify and describe any three neurotransmitters, using specific examples.

138. Identify how abnormal levels of specific neurotransmitters may be involved in each of these disorders: Alzheimer's disease, Parkinson's disease, and schizophrenia.

139. Diagram and describe the peripheral nervous system. Make sure to include descriptions or examples that illustrate understanding.

140. Distinguish between the sympathetic and the parasympathetic divisions of the autonomic nervous system. For each division, provide an example of a situation in which the division would become active. Describe the effects on several bodily processes of the activity of each division.

141. Define what evolutionary psychology. Using language as an example, describe how an evolutionary psychologist would explain, describe and study this function.

142. Identify six components of the endocrine system. State the hormone(s) each component produces. Identify the functions of these hormones.

143. List and describe the brain imaging techniques.

144. Identify and describe the "old brain" structures or areas. Illustrate the function of each area.

145. Review recent research investigating the effects of gender and culture on brain structure and function.

146. What is biofeedback? Describe the procedure and identify some of the physical and psychological disorders where it is applied.

Chapter 2 Key

1. *(p. 50)* Psychologists who specialize in considering the ways in which the biological structures and functions of the body affect behavior are known as_____.

A. genetic psychologists

B. biopsychologists

C. evolutionary psychologists

D. clinical neuropsychologists

APA Goal Outcome: 1.2, 10.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #1
Learning Outcome: 5-1

2. *(p. 50)* Alison has developed an interest in the ways in which the biological structures and functions of the body affect behavior. She will most likely become a(n):

A. genetic psychologist.

B. behavioral neuroscientist.

C. evolutionary psychologist.

D. clinical neuropsychologist.

APA Goal Outcome: 1.2, 10.2
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #2
Learning Outcome: 5-1

3. The basic elements of the nervous system are called:

(p. 51)

A. axons.

B. glial cells.

C. neurons.

D. neurotransmitters.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #3
Learning Outcome: 5-2

4. As many as_____neurons throughout the body are involved in the control of behaviour.

(p. 51)

A. 1 billion

B. 1 trillion

C. 5 million

D. 50 million

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #4
Learning Outcome: 5-2

5. Neurons are physically held in place by_____.

(p. 51)

A. axons

B. glial cells

C. dendrites

D. myelin cells

APA Goal Outcome: 1.2

Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #5
Learning Outcome: 5-2

6. Which of the following is NOT one of the functions of glial cells?
(p. 51)

A. They nourish nerve cells.
B. They communicate messages within the nervous system.
C. They help repair damage that might occur to neurons.
D. They provide nourishment to neurons.

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #6
Learning Outcome: 5-2

7. A cluster of fibers at one end of a neuron that receives messages from other neurons is called:
(p. 51)

A. axon.
B. terminal button.
C. glial fiber.
D. dendrite.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #7
Learning Outcome: 5-2

8. An axon is a(n):

(p. 51)

A. neuron's cell body.

B. cluster of fibers at one end of a neuron.

C. support cell in the nervous system.

D. long, slim, tubelike structure extending from a neuron.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #8
Learning Outcome: 5-2

9. Which of the following structures is especially important for carrying messages received by the dendrites to other neurons?

(p. 51)

A. Neurotransmitter

B. Synapse

C. Axon

D. Glial cell

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #9
Learning Outcome: 5-2

10. Terminal buttons are found at the end of:

(p. 51)

A. neurotransmitters.

B. dendrites.

C. axons.

D. glial cells.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #10
Learning Outcome: 5-2

11. Which of the following sequences correctly arranges nervous system structures from the most general to the most specific?

(p. 51)

A. Neuron → axon → terminal button

B. Neuron → terminal button → axon

C. Axon → terminal button → neuron

D. Axon → neuron → terminal button

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #11
Learning Outcome: 5-2

12. Dendrite is to axon what_____is to_____.

(p. 51)

A. receiving; sending

B. sending; receiving

C. reuptake; action potential

D. action potential; reuptake

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Easy
Feldman - Chapter 02 #12
Learning Outcome: 5-2

13. Which of the following sequences accurately reflects the route followed by nerve impulses when one neuron communicates with another?

(p. 52)

A. Dendrite → axon → cell body

B. Dendrite → cell body → axon

C. Cell body → axon → dendrite

D. Axon → dendrite → cell body

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #13
Learning Outcome: 5-2

14. Electrical wires are generally protected by a tube of plastic. A similar insulating function is performed in the nervous system by the:
(p. 52)

A. myelin sheath.
B. glial cells.
C. terminal buttons.
D. synapse.

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #14
Learning Outcome: 5-2

15. _____is a protective coat of fat and protein that wraps around the axon.
(p. 52)

A. Myelin sheath
B. Glial cell
C. Dendrite
D. Synapse

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #15
Learning Outcome: 5-2

16. You cannot fire a gun softly, or flush a toilet halfway. Like an action potential, gun fire and a toilet's flush follow the_____law.
(p. 52)

A. incremental transformation

B. graded action

C. all-or-none

D. intensity of stimulus

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #16
Learning Outcome: 5-2

17. The rule that neurons are either on or off is known as the_____law.
(p. 52)

A. intensity of stimulus

B. graded action

C. all-or-none

D. incremental transformational

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #17
Learning Outcome: 5-2

18. The state in which there is a negative electrical charge of about -70 millivolts within a neuron is known as the_____state.
(p. 52)

A. triggering
B. terminal
C. optimum
D. resting

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #18
Learning Outcome: 5-2

19. Regarding action potentials, which of the following statements is TRUE?
(p. 53)

A. As the impulse travels along the axon, the movement of ions causes a change in charge from positive to neutral in successive sections of the axon.
B. The action potential moves from one end of the axon to the other like a flame moving along a fuse.
C. After the impulse has passed through a particular section of the axon, negative ions are pumped out of that section, and its charge returns to positive while the action potential continues to move along the axon.
D. Just after an action potential has passed through a section of the axon, a neuron can fire again immediately if it receives appropriate stimulation.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #19
Learning Outcome: 5-2

20. As an action potential occurs, the neuron's electrical charge:

(p. 53)

A. changes from negative to neutral.

B. changes from positive to neutral.

C. changes from negative to positive.

D. changes from positive to negative.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #20
Learning Outcome: 5-2

21. _____are specialized neurons that fire not only when a person enacts a particular behavior, but also when a person simply observes another individual carrying out the same behavior.

(p. 54)

A. Pharyngeal motorneuron

B. Mirror neurons

C. Ventral cord motor neuron

D. Amphid neurons

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #21
Learning Outcome: 5-2

22. Regarding mirror neurons, which of the following statements is ACCURATE?

(p. 54)

A. Mirror neurons are involved in face recognition and language acquisition, but not in empathy.
B. Mirror neurons are involved in empathy and face recognition, but not in language acquisition.
C. Mirror neurons are involved in empathy, language acquisition, and face recognition.
D. Mirror neurons are involved in empathy and language acquisition, but not in face recognition.

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #22
Learning Outcome: 5-2

23. A synapse is a(n):

(p. 55)

A. chemical.
B. signal.
C. joint.
D. gap.

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #23
Learning Outcome: 5-2

24. _____is the space between two neurons where the axon of a sending neuron communicates with the dendrites of a receiving neuron by using chemical messages.
(p. 55)

A. Synapse

B. Terminal button

C. Axon

D. Cell body

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #24
Learning Outcome: 5-2

25. Which of the following statements regarding inhibitory messages is TRUE?
(p. 56)

A. Inhibitory messages always increase the likelihood that a receiving neuron will fire.

B. Inhibitory messages decrease the likelihood that a receiving neuron will fire.

C. The dendrites of a neuron cannot receive both excitatory and inhibitory messages simultaneously.

D. Inhibitory messages make it more likely that an action potential will travel down its axon.

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #25
Learning Outcome: 5-3

26. The reabsorption of neurotransmitters by a terminal button is termed as:

(p. 56)

A. recycling.

B. reassertion.

C. reuptake.

D. reuse.

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #26
Learning Outcome: 5-3

27. Which neurotransmitter is described INCORRECTLY?

(p. 57)

A. Acetylcholine–transmits messages related to skeletal muscles

B. GABA–an excitatory neurotransmitter inhibited by alcohol or tranquilizers

C. Serotonin–helps regulate sleep and mood

D. Glutamate–plays a role in memory

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #27
Learning Outcome: 5-3

28. The neurotransmitter dopamine is involved in:

(p. 58)

A. the brain's effort to deal with pain.

B. Alzheimer's disease.

C. the regulation of sleep, eating, mood, and pain.

D. movement, attention, and learning.

APA Goal Outcome: 1.2, 4.2

Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #28
Learning Outcome: 5-3

29. Which neurotransmitter is CORRECTLY matched with a psychological function?
(p. 58)

A. Relief of pain–glutamate
B. Regulates mood–acetylcholine
C. Facilitates learning–dopamine
D. Contributes to memory–serotonin

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #29
Learning Outcome: 5-3

30. Which disorder is CORRECTLY paired with an associated neurotransmitter?
(p. 58)

A. Parkinson's disease: dopamine
B. Depression: glutamate
C. Schizophrenia: serotonin
D. Alzheimer's disease: endorphins

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #30
Learning Outcome: 5-3

31. Inhibitory is to excitatory what_____is to_____.

(p. 57)

A. glutamate; GABA

B. glutamate; acetylcholine

C. GABA; glutamate

D. endorphins; GABA

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #31
Learning Outcome: 5-3

32. Which expression below most closely approximates the number of neural connections in the brain?

(p. 60)

A. 10 quadrillion

B. 1 million

C. 1 billion

D. 1 trillion

APA Goal Outcome: 1.2, 7.3
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #32
Learning Outcome: 6-1

33. The nervous system is divided into the_____and the_____nervous systems.

(p. 60)

A. primary; secondary

B. somatic; autonomic

C. sympathetic; parasympathetic

D. central; peripheral

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #33
Learning Outcome: 6-1

34. The brain and the spinal cord constitute the_____nervous system.

(p. 60)

A. central

B. peripheral

C. extraneous

D. parasympathetic

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #34
Learning Outcome: 6-1

35. _____is an automatic, involuntary response to an incoming stimulus.

(p. 60)

A. Action potential

B. Intuition

C. Instinct

D. Reflex

APA Goal Outcome: 1.2

Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #35
Learning Outcome: 6-1

36. The_____is the main means for transmitting messages between the brain and the body.
(p. 60)

A. cortex
B. medulla
C. axon
D. spinal cord

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Difficult
Feldman - Chapter 02 #36
Learning Outcome: 6-1

37. Which of the following is TRUE of the spinal cord's control of behavior?
(p. 60)

A. The spinal cord cannot control any behaviors without the help of the brain.
B. The spinal cord is not involved in reflexes.
C. The spinal cord can control some simple reflexes without the brain's help.
D. The spinal cord can control relatively complex behavior without the brain's help.

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #37
Learning Outcome: 6-1

38. The central nervous system is composed of_____. The peripheral nervous system comprises _____.
(p. 60, 61)

A. the somatic and autonomic nervous systems; the sympathetic and parasympathetic nervous systems
B. the somatic and autonomic nervous systems; the brain and the spinal cord
C. the sympathetic and parasympathetic nervous systems; the somatic and autonomic nervous systems
D. the brain and the spinal cord; the somatic and autonomic nervous systems

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #38
Learning Outcome: 6-1

39. Sensory is to motor what_____is to_____.
(p. 62)

A. efferent; afferent
B. afferent; efferent
C. afferent; interneuron
D. interneuron; efferent

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #39
Learning Outcome: 6-1

40. _____are neurons that connect sensory and motor neurons, carrying messages between the two.
(p. 62)

A. Mirror neurons

B. Amphid neurons

C. Interneurons

D. Autoneurons

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #40
Learning Outcome: 6-1

41. The two major divisions of the peripheral nervous system are the_____and_____divisions.
(p. 62)

A. somatic; autonomic

B. sympathetic; parasympathetic

C. afferent; efferent

D. sensory; motor

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #41
Learning Outcome: 6-1

42. _____is the part of the peripheral nervous system that specializes in the control of voluntary movements and the communication of information to and from the sense organs.
(p. 62)

A. Somatic division

B. Sympathetic division

C. Parasympathetic division

D. Autonomic division

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #42
Learning Outcome: 6-1

43. Somatic is to autonomic what_____is to_____.
(p. 62)

A. involuntary; voluntary

B. voluntary; involuntary

C. excitation; rest

D. rest; excitation

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #43
Learning Outcome: 6-1

44. The part of the autonomic division of the nervous system that acts to prepare the body for action in stressful situations, engaging all the organism's resources to respond to a threat is known as the_____.
(p. 62)

A. somatic division
B. sympathetic division
C. parasympathetic division
D. apathetic division

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #44
Learning Outcome: 6-1

45. The "fight-or-flight" response is associated with the_____division.
(p. 62)

A. somatic
B. sympathetic
C. parasympathetic
D. apathetic

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Easy
Feldman - Chapter 02 #45
Learning Outcome: 6-1

46. The part of the autonomic division of the nervous system that acts to calm the body after an emergency has ended is known as the_____division.
(p. 62)

A. somatic
B. sympathetic
C. parasympathetic
D. apathetic

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #46
Learning Outcome: 6-1

47. The_____division also directs the body to store energy for use in emergencies.
(p. 62)

A. somatic
B. sympathetic
C. parasympathetic
D. apathetic

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Easy
Feldman - Chapter 02 #47
Learning Outcome: 6-1

48. *(p. 62)* Which of the following situations is most likely to involve the action of the parasympathetic nervous system?

A. Brooke's finger accidentally grazes the hot iron; she immediately jerks her hand away.

B. After mistaking her roommate for a thief, Callum relaxes with a glass of water.

C. Walking toward her car in a deserted parking lot one night, Danica is surprised by a strange man appearing from nowhere.

D. Peyton is preparing to go to bed and is alarmed to see a stranger at her window.

APA Goal Outcome: 1.2, 4.4
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #48
Learning Outcome: 6-1

49. *(p. 62)* With respect to its potential basis in nervous system activity, "voodoo death" has been attributed to:

A. an overactive sympathetic nervous system.

B. an overactive parasympathetic nervous system.

C. the cessation of sympathetic nervous system responses.

D. an understimulated central nervous system.

APA Goal Outcome: 1.2, 1.3, 3.1, 4.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #49
Learning Outcome: 6-1

50. Izzy sees a leopard in her backyard. Her pupils are dilated and her heart is pounding; her breathing is shallow and rapid. Her_____nervous system is active.
(p. 62)

A. parasympathetic

B. sympathetic

C. apathetic

D. somatic

APA Goal Outcome: 1.2
Blooms Taxonomy: Apply
Difficulty: Easy
Feldman - Chapter 02 #50
Learning Outcome: 6-1

51. Which of the following terms best describes the organization of the nervous system today?
(p. 63)

A. Linear

B. Recursive

C. Hierarchical

D. Random

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #51
Learning Outcome: 6-1

52. The branch of psychology that seeks to identify behavior patterns that are a result of our genetic inheritance from our ancestors is known as_____.
(p. 63)

A. social psychology
B. health psychology
C. clinical psychology
D. evolutionary psychology

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #52
Learning Outcome: 6-1

53. Evolutionary psychologists have spawned a new and increasingly influential field:
(p. 64)

A. social psychology.
B. health psychology.
C. molecular genetics.
D. behavioral genetics.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #53
Learning Outcome: 6-1

54. The study of the effects of heredity on how people conduct themselves is known as_____.

(p. 64)

A. behavioral genetics

B. classical genetics

C. development genetics

D. molecular genetics

APA Goal Outcome: 1.2, 10.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #54
Learning Outcome: 6-1

55. Dr. Schilling is investigating the potential genetic basis of antisocial personality disorder by examining the relative prevalence of the disorder among either identical or fraternal twins, raised either together or in different families. Dr. Schilling is best described as a_____.

(p. 64)

A. behavioral geneticist

B. classical geneticist

C. development geneticist

D. molecular geneticist

APA Goal Outcome: 1.2, 4.2, 10.2
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #55
Learning Outcome: 6-1

56. *(p. 64)* Which of the following statements best expresses the relationship between the nervous system and the endocrine system?

A. They operate entirely independently.

B. The endocrine system is part of the central nervous system.

C. The endocrine system influences and is influenced by the central nervous system.

D. The central nervous system is one part of the endocrine system.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #56
Learning Outcome: 6-2

57. *(p. 64)* A key component of the endocrine system is the tiny_____gland, which is found near–and regulated by–the_____in the brain.

A. adrenal; hippocampus

B. pituitary; hippocampus

C. adrenal; hypothalamus

D. pituitary; hypothalamus

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #57
Learning Outcome: 6-2

58. The_____gland is a major component of the endocrine system which secretes hormones that control growth and other parts of the endocrine system. *(p. 64)*

A. esophageal
B. apocrine
C. parotid
D. pituitary

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #58
Learning Outcome: 6-2

59. The_____gland has sometimes been called the "master gland" because it controls the functioning of the rest of the endocrine system. *(p. 64)*

A. pituitary
B. esophageal
C. apocrine
D. parotid

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #59
Learning Outcome: 6-2

60. The hormone oxytocin has been implicated in each of the following behaviors EXCEPT the:
(p. 64)

A. urge to nurse newborn infants.

B. desire to seek or respond to potential sexual partners.

C. development of trust in others.

D. tendency to produce violent, dangerous behavior.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #60
Learning Outcome: 6-2

61. Which of the following glands or structures is CORRECTLY matched with the hormone it produces?
(p. 65)

A. Pineal gland; oxytocin

B. Pancreas; insulin

C. Medulla; melatonin

D. Pituitary gland; aldosterone

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #61
Learning Outcome: 6-2

62. Which of the following hormones is CORRECTLY matched with its function?

(p. 65)

A. Aldosterone - regulates daily rhythms

B. Erythropoietin - regulates the sodium and potassium balance in the blood

C. Adipokines - regulate the production of red blood cells

D. Parathyroid hormone - increases blood calcium

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #62
Learning Outcome: 6-2

63. Which of the following statements is TRUE regarding hormone replacement therapy as a treatment for menopausal symptoms?

(p. 65)

A. It is used less frequently now than in the past.

B. It is the only treatment that does not have any side effects.

C. Its benefits outweigh its risks.

D. It has become increasingly popular.

APA Goal Outcome: 1.2, 4.4
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #63
Learning Outcome: 6-2

64. Which of the following is NOT a brain scanning technique?

(p. 68)

A. Electroencephalogram (EEG)

B. Electromyogram (EMG)

C. Positron emission tomography (PET)

D. Transcranial magnetic stimulation (TMS)

APA Goal Outcome: 1.2, 2.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #64
Learning Outcome: 7-1

65. Which brain imaging technique below is CORRECTLY matched with its description?

(p. 69)

A. EEG–records the brain's electrical activity with electrodes

B. PET–causes a momentary interruption of the brain's electrical activity

C. fMRI–traces biochemical activity in the brain

D. TMS–produces a graph of electrical wave patterns

APA Goal Outcome: 1.2, 2.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #65
Learning Outcome: 7-1

66. Which brain imaging technique below is INCORRECTLY matched with its diagnostic use?

(p. 69)

A. EEG–facilitates the diagnosis of epilepsy and learning disorders

B. PET–may help identify brain tumors

C. fMRI–improves diagnosis of strokes and multiple sclerosis

D. TMS–facilitates the diagnosis of nervous system disorders such as Alzheimer's disease

APA Goal Outcome: 1.2, 4.2

Blooms Taxonomy: Understand
Difficulty: Easy
Feldman - Chapter 02 #66
Learning Outcome: 7-1

67. *(p. 69)* Brent is taking part in an experiment in the cognitive neuroscience lab on campus. Silently, he reads rapid sequences of words flashed on a computer screen. Simultaneously, the electrical activity of his brain is recorded through skull electrodes. The brain scanning technique used in this study is:

A. fMRI.
B. PET.
C. EEG.
D. TMS.

APA Goal Outcome: 1.2, 2.2
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #67
Learning Outcome: 7-1

68. *(p. 69)* The newest brain scanning technique which is popularly used is:

A. PET.
B. EEG.
C. TMS.
D. fMRI.

APA Goal Outcome: 1.2, 2.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #68
Learning Outcome: 7-1

69. *(p. 70)* Marisol is trying a new treatment for severe depression. Brief magnetic pulses are sent through her brain. Marisol is undergoing:

A. optogenetic therapy.
B. transcranial magnetic stimulation.
C. positron emission tomography.
D. functional magnetic resonance imaging.

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #69
Learning Outcome: 7-1

70. *(p. 70)* Soon, it may be possible to view the activity of individual neural circuits, due to the emerging field of:

A. optogenetics.
B. synaptic reflectance.
C. neurogenetics.
D. transcranial magnetic stimulation.

APA Goal Outcome: 1.2, 2.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #70
Learning Outcome: 7-1

71. Which of the following structures is NOT part of the brain's central core?

(p. 70)

A. Hippocampus

B. Cerebellum

C. Pons

D. Reticular formation

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #71
Learning Outcome: 7-1

72. The hindbrain includes each of the following structures EXCEPT the:

(p. 70)

A. medulla.

B. thalamus.

C. pons.

D. cerebellum.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #72
Learning Outcome: 7-2

73. The part of the brain closest to the spinal cord is the_____; it is important for such functions as _____.
(p. 70)

A. cerebellum; maintaining body temperature

B. cerebellum; heart rate and respiration

C. medulla; maintaining body temperature

D. medulla; heart rate and respiration

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #73
Learning Outcome: 7-2

74. The pons serves to:
(p. 70)

A. regulate arousal.

B. relay sensory information to the brain's association areas.

C. integrate movement between the left and right halves of the body.

D. consolidate memories.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #74
Learning Outcome: 7-2

75. The part of the brain that controls bodily balance is the_____.

(p. 70)

A. hypothalamus

B. thalamus

C. reticular formation

D. cerebellum

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #75
Learning Outcome: 7-2

76. Yves has been drinking. He has difficulty walking a straight line when asked to do so by a police officer. Apparently, Yves'_____is functioning poorly.

(p. 70)

A. thalamus

B. cerebellum

C. corpus callosum

D. reticular formation

APA Goal Outcome: 1.2, 4.4
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #76
Learning Outcome: 7-2

77. *(p. 70)* The part of the brain extending from the medulla through the pons and made up of groups of nerve cells that can immediately activate other parts of the brain to produce general bodily arousal is known as the_____.

A. reticular formation

B. thalamus

C. cerebellum

D. limbic system

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #77
Learning Outcome: 7-2

78. *(p. 72)* The thalamus may be likened to a(n):

A. amplifier.

B. receiver.

C. filter.

D. relay station.

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #78
Learning Outcome: 7-2

79. The_____is the part of the brain that is located in the middle of the central core and acts primarily to relay information about the senses. *(p. 72)*

A. thalamus

B. cerebellum

C. hypothalamus

D. amygdala

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #79
Learning Outcome: 7-2

80. The_____is a tiny part of the brain that maintains homeostasis and produces and regulates vital behavior, such as eating, drinking, and sexual behavior. *(p. 72)*

A. medulla

B. cerebellum

C. amygdala

D. hypothalamus

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Easy
Feldman - Chapter 02 #80
Learning Outcome: 7-2

81. Pizza! Beer! Sex! Our motivation or drive for such things is based on the activity of the brain region known as the:
(p. 72)

A. hypothalamus.

B. thalamus.

C. hippocampus.

D. amygdala.

APA Goal Outcome: 1.2, 4.4
Blooms Taxonomy: Apply
Difficulty: Easy
Feldman - Chapter 02 #81
Learning Outcome: 7-2

82. The_____maintains a steady internal environment for the body.
(p. 72)

A. thalamus

B. amygdala

C. hypothalamus

D. hippocampus

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #82
Learning Outcome: 7-2

83. The_____in the brain contributes to the body's maintenance of a steady internal physiological state, called_____.
(p. 72)

A. thalamus; homeostasis

B. hypothalamus; homeostasis

C. hippocampus; equilibrium

D. thalamus; equilibrium

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #83
Learning Outcome: 7-2

84. The limbic system contains which of the following structures?
(p. 73)

A. Amygdala

B. Pons

C. Thalamus

D. Corpus callosum

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #84
Learning Outcome: 7-2

85. The structures of the_____jointly control a variety of basic functions relating to emotions and self-preservation such as eating, aggression, and reproduction. *(p. 73)*

A. central core of the brain

B. endocrine system

C. limbic system

D. cerebral cortex

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #85
Learning Outcome: 7-2

86. Darnell underwent surgery to control his severe epilepsy. Now, however, Darnell cannot form new memories of his experiences, although he does remember events in the past. Most likely, the surgery destroyed a portion of the_____in Darnell's brain. *(p. 73)*

A. amygdala

B. striatum

C. medulla

D. hippocampus

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #86
Learning Outcome: 7-2

87. The_____is referred to as the "new brain."

(p. 73)

A. hindbrain

B. limbic system

C. cerebral cortex

D. central core

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #87
Learning Outcome: 7-2

88. Which of the following sequences correctly identifies the orders of the lobes of the cortex, from anterior to posterior?

(p. 74)

A. Frontal → temporal and parietal → posterior

B. Occipital → temporal and parietal → frontal

C. Frontal → occipital → temporal and parietal

D. Frontal → temporal and parietal → occipital

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #88
Learning Outcome: 7-2

89. In which lobe is the motor area located?

(p. 74)

A. Occipital

B. Frontal

C. Parietal

D. Temporal

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #89
Learning Outcome: 7-2

90. The_____area is part of the cortex that is largely responsible for the body's voluntary movement.

(p. 75)

A. attribution

B. sensory

C. motor

D. association

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #90
Learning Outcome: 7-2

91. *(p. 75)* In a neurophysiological investigation, a monkey makes an involuntary gesture when a portion of its brain is electrically stimulated. The area of the brain that was most likely stimulated is the:

A. parietal lobe.
B. frontal lobe.
C. temporal lobe.
D. occipital lobe.

APA Goal Outcome: 1.2, 2.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #91
Learning Outcome: 7-2

92. *(p. 75)* The_____area is the site in the brain of the tissue that corresponds to each of the senses, with the degree of sensitivity related to the amount of tissue.

A. attribution
B. sensory
C. motor
D. association

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #92
Learning Outcome: 7-2

93. The somatosensory area is to the auditory area what the_____lobe is to the_____lobe.

(p. 75-76)

A. temporal; parietal

B. parietal; occipital

C. occipital; parietal

D. parietal; temporal

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Easy
Feldman - Chapter 02 #93
Learning Outcome: 7-2

94. The visual area in the cortex is located in the_____.

(p. 76)

A. frontal lobe

B. occipital lobe

C. temporal lobe

D. parietal lobe

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #94
Learning Outcome: 7-2

95. The brain injury suffered by 19th-century railroad worker Phineas Gage allowed psychologists to learn about the functions of the brain's:
(p. 76)

A. association areas.

B. central core.

C. limbic system.

D. sensory areas.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #95
Learning Outcome: 7-2

96. The_____areas are considered to be the site of higher mental processes such as thinking, language, memory, and speech.
(p. 76)

A. sensory

B. attribution

C. motor

D. association

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #96
Learning Outcome: 7-2

97. Which of the following is NOT an executive function?

(p. 76)

A. Recalling information

B. Setting goals

C. Controlling impulses

D. Making judgments

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #97
Learning Outcome: 7-2

98. Violet's speech is slow and labored; however, she can understand others' speech. Violet has:

(p. 76)

A. Broca's aphasia.

B. Wernicke's aphasia.

C. dyslexia.

D. dyscalculia.

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #98
Learning Outcome: 7-2

99. Warren suffers from Wernicke's aphasia. Which of the following will he experience in thought or behavior?
(p. 76)

A. Warren will experience an inability to recognize faces.
B. Warren will have difficulty recognizing objects visually.
C. Warren will have trouble producing fluent speech.
D. Warren will experience difficulty understanding language.

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #99
Learning Outcome: 7-2

100. The process by which the brain reorganizes itself throughout development is termed:
(p. 77)

A. neuroformation.
B. neuroplasticity.
C. neuroadaptation.
D. neuromutability.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #100
Learning Outcome: 7-2

101. _____is the creation of new neurons.

(p. 77)

A. Neurogenesis

B. Neuroadaptation

C. Neuromutability

D. Neuropathy

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #101
Learning Outcome: 7-2

102. Neurogenesis is especially evident in brain areas related to learning and memory. Based on this statement, you might expect neurogenesis to be particularly prevalent in the brain's:

(p. 73, 77)

A. thalamus.

B. cerebellum.

C. hippocampus.

D. hypothalamus.

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #102
Learning Outcome: 7-2

103.103. Which of the following is TRUE about the brain?

(p. 77)

A. New research has confirmed that no new brain cells are created after childhood.

B. The interconnections between neurons become less complex throughout life.

C. Specific experience can modify the way in which information is processed.

D. The brain does not have the ability to shift functions to different locations in cases of surgery.

APA Goal Outcome: 1.2, 3.1
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #103
Learning Outcome: 7-2

104.104. The use of stem cells in research and treatment remains controversial because stem cells come from:

(p. 78)

A. nonhuman species.

B. aborted fetuses.

C. genetic engineering in the laboratory.

D. paid adult donors.

APA Goal Outcome: 4.4, 4.5
Blooms Taxonomy: Understand
Difficulty: Easy
Feldman - Chapter 02 #104
Learning Outcome: 7-2

105.105. Which of the following statements is most accurate with respect to the lateralization of language?

(p. 79)

A. It is most likely left-lateralized.

B. It is most likely right-lateralized.

C. The control of language is shared equally between the hemispheres.

D. The lateralization of language varies dramatically from one person to another.

APA Goal Outcome: 1.2, 8.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #105
Learning Outcome: 7-3

106.106. Trevor is scratching his head, trying desperately to solve a verbal analogy as part of a standardized entrance examination; Sienna, meanwhile, is giving an oral presentation in a political science class. Of the brain's hemispheres, Trevor's_____hemisphere is most active; Sienna's_____hemisphere is most active.

(p. 79)

A. right; right

B. left; left

C. right; left

D. left; right

APA Goal Outcome: 1.2, 4.4
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #106
Learning Outcome: 7-3

107.107. Kate has suffered right-hemisphere damage. Which of the following processes is LEAST likely to be affected?

(p. 79)

A. Achieving *feng shui* in her living room by rearranging the couch and the TV

B. Balancing her checkbook

C. Reading that look on her boyfriend's face

D. Thinking that a new song on the radio is really catchy

APA Goal Outcome: 1.2, 4.4
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #107
Learning Outcome: 7-3

108.108. The hemispheres of the brain are connected by a bundle of fibers called the:

(p. 80)

A. corpus callosum.

B. corpus cerebellum.

C. central sulcus.

D. cerebral cortex.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #108
Learning Outcome: 7-3

109. Ramona is a woman. Stefan is a man. Which of the following statements is TRUE regarding potential differences in the corpus callosum between these two individuals?

(p. 80)

A. Stefan's corpus callosum is probably the same size as Ramona's.

B. Ramona's corpus callosum is larger than Stefan's.

C. Ramona's corpus callosum is slightly smaller than Stefan's.

D. Stefan's corpus callosum is much larger than Ramona's.

APA Goal Outcome: 1.2, 5.5, 8.2
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #109
Learning Outcome: 7-3

110. Which of the following generalizations is probably most accurate regarding potential gender differences in the lateralization of language?

(p. 80)

A. No gender differences in the lateralization of language have been found.

B. Language is more strongly left-lateralized among females than among males.

C. Language is more strongly left-lateralized among males than among females.

D. The lateralization of language is variable from one person to another.

APA Goal Outcome: 1.2, 5.5, 8.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #110
Learning Outcome: 7-3

111.11. People whose corpus callosum has been surgically cut to stop seizures are called_____.

(p. 80)

A. deep-brain patients

B. dual brain patients

C. split-brain patients

D. bicameral patients

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #111
Learning Outcome: 7-4

112.12. Mrs. Simon has learned to lessen the pain associated with her migraine headaches by voluntarily relaxing specific muscles and reducing her blood pressure. This example illustrates:

(p. 82)

A. deep-brain stimulation.

B. biofeedback.

C. split-brain control.

D. transcranial stimulation.

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Apply
Difficulty: Easy
Feldman - Chapter 02 #112
Learning Outcome: 7-4

113. The_____is an insulating coat of fat and protein wrapped around an axon.

(p. 52)

myelin sheath

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium

Learning Outcome: 5-2

114. According to the_____law neurons are either on or off.

(p. 52)

all-or-none

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #114
Learning Outcome: 5-2

115. At the cellular level, our ability to empathize with others may reflect the activity of _____ neurons.

(p. 54)

mirror

APA Goal Outcome: 1.2, 4.4
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #115
Learning Outcome: 5-2

116. _____is a chemical message that prevents or decreases the likelihood that a receiving neuron will fire.

(p. 56)

Inhibitory message

APA Goal Outcome: 1.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #116
Learning Outcome: 5-3

117. After a long run, Aaron sometimes experiences a feeling of euphoria, a "runners' high" reflecting the activity of neurotransmitters called_____.
(p. 58)

endorphins

APA Goal Outcome: 1.2, 4.4
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #117
Learning Outcome: 5-3

118. _____neurons transmit information from the perimeter of the body to the central nervous system.
(p. 62)

Afferent

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Difficult
Feldman - Chapter 02 #118
Learning Outcome: 6-1

119. The somatic nervous system regulates voluntary movement; in contrast, the_____nervous system underlies involuntary movement.
(p. 62)

autonomic

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #119
Learning Outcome: 6-1

120. Arif's heart rate and respiration are slowing, and his dilated pupils are contracting. His _____ nervous system has become active.
(p. 62-63)

parasympathetic

APA Goal Outcome: 1.2

Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #120
Learning Outcome: 6-1

121. _____is the branch of psychology that seeks to identify how behavior is influenced and produced by our genetic inheritance from our ancestors.
(p. 63)

Evolutionary psychology

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #121
Learning Outcome: 6-1

122. The tiny_____gland is known as the "master gland."
(p. 64)

pituitary

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #122
Learning Outcome: 6-2

123. A technique called_____records the brain's electrical activity through electrodes.
(p. 69)

EEG (electroencephalogram)

APA Goal Outcome: 1.2, 2.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #123
Learning Outcome: 7-1

124. Wilma has been experiencing memory difficulties, and her doctor is concerned that Wilma may have a brain tumor. He recommends a(n)_____to confirm his diagnosis.
(p. 69)

PET (positron emission tomography)

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #124
Learning Outcome: 7-1

125. Extending from the medulla, through the midbrain, into the forebrain is the_____, which serves to regulate general bodily arousal.
(p. 70)

reticular formation

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #125
Learning Outcome: 7-2

126. Information travels from our sensory receptors to the_____in the brain, which relays it to higher association areas.
(p. 72)

thalamus

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #126
Learning Outcome: 7-2

127. The amygdala and hippocampus are found within the brain's_____system.
(p. 73)

limbic

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember

Difficulty: Easy
Feldman - Chapter 02 #127
Learning Outcome: 7-2

128. Epileptics have sometimes had portions of their limbic system removed. Subsequent memory problems may reflect damage to the_____.
(p. 73)

hippocampus

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #128
Learning Outcome: 7-2

129. The cortex has four major sections called_____.
(p. 74)

lobes

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #129
Learning Outcome: 7-2

130. The_____area in the parietal lobe encompasses specific locations associated with the ability to perceive touch and pressure in a particular area of the body.
(p. 75)

somatosensory

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #130
Learning Outcome: 7-2

131. New neurons are created even during adulthood, in a process called_____.
(p. 77)

neurogenesis

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #131
Learning Outcome: 7-2

132. Vance has learned to voluntarily control the activation of his autonomic nervous system as part of the treatment for an anxiety disorder. This is an example of_____.
(p. 82)

biofeedback

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Apply
Difficulty: Medium
Feldman - Chapter 02 #132
Learning Outcome: 7-4

133. Draw a typical neuron and label its major parts accurately. Briefly identify the functions of the parts labeled on your diagram.
(p. 51-52)

The drawing should contain: (a) dendrites, which should appear as clusters of branchlike extensions from the cell body; (b) the cell body, which should appear as a roundish structure in the center of the diagram; (c) the axon, which should appear as a long tube extending from the cell body; and (d) myelin, which should appear bracketing portions of the axon. The diagram should also include a terminal button, a bulblike ending to the axon.
The function of the following structures should be described. Dendrites–receive information from other neurons. Axon–sends message to another neuron. Myelin–insulates one axon from another and speeds neural transmission.

APA Goal Outcome: 1.2, 7.1
Blooms Taxonomy: Understand

Difficulty: Medium
Feldman - Chapter 02 #133
Learning Outcome: 5-2

134. *(p. 54)* Briefly discuss what mirror neurons are, how they work and what implications this recent discovery may hold for future research. What are the evolutionary implications for mirror neurons existence?

Mirror neurons are neurons that fire not only when a person enacts a particular behavior but also when a person simply observes another individual carrying out the same behavior. Mirror neurons may help explain how (and why) humans have the capacity to understand others' intentions. Specifically, mirror neurons may fire when we view someone doing something, helping us to predict what their goals are and what they may do next.
The discovery of mirror neurons suggests that the capacity of even young children to imitate others may be an inborn behavior. Furthermore, mirror neurons may be at the root of empathy—those feelings of concern, compassion, and sympathy for others—and even the development of language in humans.

APA Goal Outcome: 1.2, 7.1
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #134
Learning Outcome: 5-2

135. Outline the sequence of events that occurs at the synapse when a neural message is communicated. *(p. 56-57)*

The answer should include the following steps in the sequence: (1) neurotransmitters are produced and stored in the axon. An action potential reaches the end of the axon, or the terminal button; (2) If an action potential arrives, the potential stimulates the release of neurotransmitter molecules from vesicles within the terminal button; (3) the neurotransmitter molecules float passively across the gap between the terminal button of the sending neuron and the dendrites of the receiving neuron; (4) the molecules fit into specialized receptor sites on the dendrites of the receiving neuron; making (5) the receiving neuron either more or less likely to produce its own action potential, depending on the neurotransmitter.

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #135
Learning Outcome: 5-2

136. What are neurotransmitters?

(p. 56)

Neurotransmitters are chemicals that carry messages across the synapse to a dendrite (and sometimes the cell body) of a receiving neuron. The chemical mode of message transmission that occurs between neurons is strikingly different from the means by which communication occurs inside neurons: Although messages travel in electrical form within a neuron, they move between neurons through a chemical transmission system.

There are several types of neurotransmitters, and not all neurons are capable of receiving the chemical message carried by a particular neurotransmitter. In the same way that a jigsaw puzzle piece can fit in only one specific location in a puzzle, each kind of neurotransmitter has a distinctive configuration that allows it to fit into a specific type of receptor site on the receiving neuron. It is only when a neurotransmitter fits precisely into a receptor site that successful chemical communication is possible.

If a neurotransmitter does fit into a site on the receiving neuron, the chemical message it delivers is basically one of two types: excitatory or inhibitory.

APA Goal Outcome: 1.2

Blooms Taxonomy: Understand

Difficulty: Easy

Feldman - Chapter 02 #136

Learning Outcome: 5-3

137. Identify and describe any three neurotransmitters, using specific examples.
(p. 57-58)

Students' answers may vary.
The answer should include three of the following neurotransmitters. At least one of the functions or domains listed for each of the three neurotransmitters should be mentioned, ideally in a personalized example.

Acetylcholine–movement of skeletal muscles; memoryGlutamate–
memory
GABA–eating and aggression; affected by alcohol
Dopamine–involved in movement, attention, learning and reinforcementSerotonin–
regulates sleep, mood, eating, depression
Endorphins–the brain's natural painkiller; may produce euphoric feelings

APA Goal Outcome: 1.2, 4.4
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #137
Learning Outcome: 5-3

138. Identify how abnormal levels of specific neurotransmitters may be involved in each of these disorders: Alzheimer's disease, Parkinson's disease, and schizophrenia.
(p. 57-58)

The answer should include the following:

Alzheimer's disease - diminished production of acetylcholine
Parkinson's disease - abnormally low levels of dopamine
Schizophrenia - abnormally high levels of dopamine

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Remember

Difficulty: Easy
Feldman - Chapter 02 #138
Learning Outcome: 5-3

139. *(p. 62)* Diagram and describe the peripheral nervous system. Make sure to include descriptions or examples that illustrate understanding.

Students' examples may vary.
The peripheral nervous system branches out from the spinal cord and brain and reaches the extremities of the body. Made up of neurons with long axons and dendrites, the peripheral nervous system encompasses all the parts of the nervous system other than the brain and spinal cord. There are two major divisions—the somatic division and the autonomic division—both of which connect the central nervous system with the sense organs, muscles, glands, and other organs.
The somatic division specializes in the control of voluntary movements—such as the motion of the eyes to read this sentence or those of the hand to turn this page—and the communication of information to and from the sense organs. The autonomic division controls the parts of the body that keep us alive—the heart, blood vessels, glands, lungs, and other organs that function involuntarily without our awareness.

APA Goal Outcome: 1.2, 4.4
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #139
Learning Outcome: 6-1

140. *(p. 62-63)* Distinguish between the sympathetic and the parasympathetic divisions of the autonomic nervous system. For each division, provide an example of a situation in which the division would become active. Describe the effects on several bodily processes of the activity of each division.

Students' examples may vary.
The answer should contain the following information:

The sympathetic nervous system acts to prepare the body for action in stressful situations by mobilizing the organism's resources to "fight" or "flee."
The parasympathetic nervous system acts to calm the body once a stressful situation or emergency has ended. It allows the body to store energy.
The sympathetic nervous system becomes active in such "fight-or-flight" situations as spotting a threatening stranger in a desolate parking garage, being involved in a near-accident on the road, and so on.
The parasympathetic nervous system becomes active in calm, restful situations such as relaxing after dinner or resting in bed before falling asleep.
Signs of sympathetic nervous system activity are increased heart rate, inhibited digestion, dilated pupils, shallow breathing.
Signs of parasympathetic nervous system activity are decreased heart rate, facilitated digestion, constricted pupils, slowed respiration.

APA Goal Outcome: 1.2, 4.4
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #140
Learning Outcome: 6-1

141. Define what evolutionary psychology. Using language as an example, describe how an evolutionary psychologist would explain, describe and study this function. *(p. 63-64)*

Evolutionary psychology is the branch of psychology that seeks to identify how behavior is influenced and produced by our genetic inheritance from our ancestors. Evolutionary psychologists argue that the course of evolution is reflected in the structure and functioning of the nervous system and that evolutionary factors consequently have a significant influence on our everyday behavior. Their work, in conjunction with the research of scientists studying genetics, biochemistry, and medicine, has led to an understanding of how our behavior is affected by heredity, our genetically determined heritage. Evolutionary psychologists have spawned a new and increasingly influential field: behavioral genetics. Consistent with the evolutionary perspective, behavioral genetics researchers are finding increasing evidence that cognitive abilities, personality traits, sexual orientation, and psychological disorders are determined to some extent by genetic factors.

APA Goal Outcome: 1.2, 4.2, 4.5
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #141
Learning Outcome: 6-1

142. Identify six components of the endocrine system. State the hormone(s) each component produces. Identify the functions of these hormones. *(p. 65)*

Students' answers may vary.
The answer should mention several of the following:

Adrenal medulla: produces epinephrine and norepinephrine, which underlie the fight-or-flight response
Adrenal cortex: makes aldosterone, which regulates sodium and potassium balance in the blood
Pancreas: produces insulin
Posterior pituitary gland: secretes oxytocin, which facilitates birthing, bonding, and the development of trust
Pineal gland: produces melatonin, which regulates daily rhythms
Parathyroid gland: produces parathyroid hormone, which increases blood calcium
Thyroid gland: produces thyroid hormone, which regulates metabolism and growth
Ovaries: produce progesterone, which controls reproduction in females
Testes: produce testosterone, which controls reproduction in males

APA Goal Outcome: 1.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #142
Learning Outcome: 6-2

143. List and describe the brain imaging techniques.

(p. 69-70)

Three of the following techniques should be identified; a description of the diagnostic utility of each technique should follow.

Electroencephalogram (EEG)—facilitates the diagnosis of epilepsy and learning disabilities
Positron emission tomography (PET)—may help identify the presence of brain tumors
Functional magnetic resonance imaging (fMRI)—has improved the diagnosis of many ailments, including strokes, multiple sclerosis, and Alzheimer's disease
Transcranial magnetic stimulation (TMS) imaging—may allow the treatment of certain psychological disorders, such as depression and schizophrenia

APA Goal Outcome: 1.2, 2.2, 4.2
Blooms Taxonomy: Remember
Difficulty: Medium
Feldman - Chapter 02 #143
Learning Outcome: 7-1

144. Identify and describe the "old brain" structures or areas. Illustrate the function of each area.
(p. 70, 72)

The "old brain" is the brain's central core. Three of the following structures should be identified. Damage or deterioration should lead to impairment of the function listed for a given area.

Medulla regulates breathing and heart rate.
Pons regulates sleep; coordinates movement between the right and left sides of the body.
Cerebellum controls body balance; coordinates movement.
Reticular formation—regulates alertness; when awake, produces arousal to outside stimulation; when asleep, filters out distracting background stimuli.
Thalamus—acts as a relay station for information from the senses.
Hypothalamus—maintains homeostasis, a steady internal state for the body; produces and regulates survival-related behavior, such as eating, self-protection, and sex.

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #144
Learning Outcome: 7-2

145. *(p. 80)* Review recent research investigating the effects of gender and culture on brain structure and function.

Young girls show earlier development in the frontal lobes, which control aggressiveness and language development. On the other hand, boys' brains develop faster in the visual region that facilitates visual and spatial tasks such as geometry. Furthermore, most males tend to show greater lateralization of language in the left hemisphere. For them, language is clearly relegated largely to the left side of the brain. In contrast, women display less lateralization, with language abilities apt to be more evenly divided between the two hemispheres. Such differences in brain lateralization may account, in part, for the superiority often displayed by females on certain measures of verbal skills, such as the onset and fluency of speech. Other research suggests that men's brains are somewhat bigger than women's brains even after taking differences in body size into account. In contrast, part of the corpus callosum, a bundle of fibers that connects the hemispheres of the brain, is proportionally larger in women than in men.

Culture also gives rise to differences in brain lateralization. Native speakers of Japanese seem to process information regarding vowel sounds primarily in the brain's left hemisphere. In contrast, North and South Americans, Europeans, and individuals of Japanese ancestry who learn Japanese later in life handle vowel sounds principally in the right hemisphere. One explanation for this difference is that certain characteristics of the Japanese language, such as the ability to express complex ideas by using only vowel sounds, result in the development of a specific type of brain lateralization in native speakers

APA Goal Outcome: 1.2, 5.5, 8.2
Blooms Taxonomy: Understand
Difficulty: Medium
Feldman - Chapter 02 #145
Learning Outcome: 7-3

146. What is biofeedback? Describe the procedure and identify some of the physical and psychological disorders where it is applied.
(p. 82)

Biofeedback is a procedure in which a person learns to control through conscious thought internal physiological processes such as blood pressure, heart and respiration rate, skin temperature, sweating, and the constriction of particular muscles. Although it traditionally had been thought that the heart rate, respiration rate, blood pressure, and other bodily functions are under the control of parts of the brain over which we have no influence, psychologists have discovered that these responses are actually susceptible to voluntary control.
In biofeedback, a person is hooked up to electronic devices that provide continuous feedback relating to the physiological response in question. For instance, someone trying to control headaches through biofeedback might have electronic sensors placed on certain muscles on her head and learn to control the constriction and relaxation of those muscles. Later, when she felt a headache starting, she could relax the relevant muscles and abort the pain.
Although the control of physiological processes through the use of biofeedback is not easy to learn, it has been employed with success in a variety of ailments, including emotional problems (such as anxiety, depression, phobias, tension headaches, insomnia, and hyperactivity), physical illnesses with a psychological component (such as asthma, high blood pressure, ulcers, muscle spasms, and migraine headaches), and physical problems.

APA Goal Outcome: 1.2, 4.2
Blooms Taxonomy: Remember
Difficulty: Easy
Feldman - Chapter 02 #146
Learning Outcome: 7-4

Chapter 2 Summary

Category	*# of Questions*
APA Goal Outcome: 1.2	92
APA Goal Outcome: 1.2, 1.3, 3.1, 4.2	1
APA Goal Outcome: 1.2, 10.2	3
APA Goal Outcome: 1.2, 2.2	7
APA Goal Outcome: 1.2, 2.2, 4.2	1
APA Goal Outcome: 1.2, 3.1	1
APA Goal Outcome: 1.2, 4.2	20
APA Goal Outcome: 1.2, 4.2, 10.2	1
APA Goal Outcome: 1.2, 4.2, 4.5	1
APA Goal Outcome: 1.2, 4.4	11
APA Goal Outcome: 1.2, 5.5, 8.2	3
APA Goal Outcome: 1.2, 7.1	2
APA Goal Outcome: 1.2, 7.3	1
APA Goal Outcome: 1.2, 8.2	1
APA Goal Outcome: 4.4, 4.5	1
Blooms Taxonomy: Apply	19
Blooms Taxonomy: Remember	81
Blooms Taxonomy: Understand	46
Difficulty: Difficult	2
Difficulty: Easy	60
Difficulty: Medium	84
Feldman - Chapter 02	146
Learning Outcome: 5-1	2
Learning Outcome: 5-2	28
Learning Outcome: 5-3	12
Learning Outcome: 6-1	31
Learning Outcome: 6-2	10
Learning Outcome: 7-1	11
Learning Outcome: 7-2	41
Learning Outcome: 7-3	7