

Chapter 2 The Role of Biology in Psychology

Test Bank Psychology in Your Life

MULTIPLE CHOICE

1. The basic building blocks of the nervous system are the
 - a. neurons.
 - b. endocrine glands.
 - c. dendrites.
 - d. glial cells.

ANS: A DIF: Easy OBJ: 2.1a MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

2. Our body's nervous system is built from billions of nerve cells, which are called
 - a. neurotransmitters.
 - b. neurons.
 - c. axons.
 - d. hormones.

ANS: B DIF: Easy OBJ: 2.1a MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

3. In the nervous system, each neuron communicates with
 - a. one or two other neurons.
 - b. a random subset of the other neurons in the nervous system.
 - c. many other neurons in an organized network.
 - d. all of the other neurons in the nervous system.

ANS: C DIF: Moderate OBJ: 2.1a MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

4. Which of the following best summarizes the main function(s) of your nervous system?
 - a. It allows the right side of your brain to communicate with the left side of your brain.
 - b. It regulates the oxygen in your blood, protects you from pain, and helps your body eliminate waste.
 - c. It allows you to receive sensory information, process that information, and then respond to it.
 - d. It produces vital bodily fluids such as bile and regulates the body's secretion of these fluids.

ANS: C DIF: Easy OBJ: 2.1b MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

5. Your nervous system allows you to do all of the following EXCEPT
 - a. receive sensory input.
 - b. perceive and remember information.
 - c. make behavioral responses.
 - d. alter genetic codes.

ANS: D DIF: Easy OBJ: 2.1b MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

6. The spinal cord is part of the _____ nervous system.
- sensory
 - peripheral
 - somatic
 - central

ANS: D DIF: Easy OBJ: 2.1b MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

7. The brain and the spinal cord make up the _____ nervous system.
- central
 - peripheral
 - primary
 - autonomic

ANS: A DIF: Easy OBJ: 2.1b MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

8. In the nervous system, the cells that receive, integrate, and transmit information are the
- axons.
 - neurons.
 - dendrites.
 - glial cells.

ANS: B DIF: Easy OBJ: 2.1c MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

9. The part of the neuron that collects information from other neurons and integrates it is the
- axon.
 - synapse.
 - cell body.
 - dendrite.

ANS: C DIF: Easy OBJ: 2.1c MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

10. The site where communication occurs between neurons is called the
- axon.
 - synapse.
 - cell body.
 - dendrite.

ANS: B DIF: Easy OBJ: 2.1c MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

11. When a neuron is stimulated enough, it
- fires an action potential.
 - becomes an agonist.
 - achieves a resting state.
 - becomes an antagonist.

ANS: A DIF: Easy OBJ: 2.1c MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

12. After an action potential is fired, it travels quickly along the
- terminal buttons.
 - synapse.
 - receptors.
 - axon.

ANS: D DIF: Easy OBJ: 2.1c MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

13. Neurons are able to communicate when
- terminal buttons plug into receptor sites on adjacent dendrites.
 - neurotransmitters cross the synapse and bind with receptors on the postsynaptic dendrite.
 - electric signals jump across the synapse to the adjacent neuron.
 - chemicals released into the synapse are converted to neurotransmitters that bind with receptors.

ANS: B DIF: Easy OBJ: 2.1c MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

14. When inactive, the electrical charge inside a neuron is slightly more negative than the electrical charge outside of the neuron. This difference in electrical charge is the
- action potential.
 - resting state.
 - inhibitory signal.
 - excitatory signal.

ANS: B DIF: Moderate OBJ: 2.1c MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

15. In the nervous system, the job of the axons is to _____ other neurons.
- transmit action potentials to
 - integrate information from
 - detect information from
 - release neurotransmitters to

ANS: A DIF: Moderate OBJ: 2.1c MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

16. A myelin sheath is a fatty layer that protects the axon, so it is most like the
- remote control for a TV.
 - insulation around a pipe.
 - layers of a cake.
 - thermostat of a heater.

ANS: B DIF: Moderate OBJ: 2.1c MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

17. The first step in neural communication is transmission, where

- a. neurotransmitters are released from terminal buttons.
- b. the cell body sums incoming information, which leads to an inhibitory signal.
- c. neurotransmitters enter the synapse and bind to receptors.
- d. signals from neurons stimulate a neuron to cause an action potential.

ANS: D DIF: Moderate OBJ: 2.1c MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

18. One part of the neuron covers and protects it much like bark that covers the trunk of a tree. In a neuron this protective covering is called the
- a. terminal buttons.
 - b. axon.
 - c. dendrites.
 - d. myelin sheath.

ANS: D DIF: Easy OBJ: 2.1c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

19. The parts of the neuron that act like mailboxes because they receive information from other places are called the
- a. terminal buttons.
 - b. axons.
 - c. dendrites.
 - d. myelin sheaths.

ANS: C DIF: Easy OBJ: 2.1c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

20. Juan is trying to find the exact puzzle piece that will fit into a certain place in his puzzle. He says to his friend, "Hey! Finding a puzzle piece to fit into the puzzle is a lot like:"
- a. the firing of an action potential
 - b. how the unique structure of a neurotransmitter must fit a certain receptor site
 - c. how a neuron reaches a resting state
 - d. the activity log that the nervous system maintains

ANS: B DIF: Easy OBJ: 2.1c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

21. Chemical substances that carry messages from one neuron to the next are called
- a. agonists.
 - b. neurotransmitters.
 - c. hormones.
 - d. antagonists.

ANS: B DIF: Easy OBJ: 2.1d MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

22. Drugs that increase the effects of the neurotransmitter GABA
- a. reduce the symptoms of depression.
 - b. improve motor control.
 - c. are used to treat anxiety.
 - d. may cause seizures.

ANS: C DIF: Moderate OBJ: 2.1d MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

23. A neurotransmitter that is important in muscle contraction is
- epinephrine.
 - norepinephrine.
 - acetylcholine.
 - serotonin.

ANS: C DIF: Moderate OBJ: 2.1d MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

24. If a new drug interferes with how the neurotransmitter acetylcholine functions, then the drug
- is an agonist.
 - is an antagonist.
 - creates an inhibitory signal.
 - creates an excitatory signal.

ANS: B DIF: Easy OBJ: 2.1d MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

25. Because nicotine increases how the neurotransmitter acetylcholine functions, it is an
- inhibitory neurotransmitter.
 - excitatory neurotransmitter.
 - antagonist.
 - agonist.

ANS: D DIF: Easy OBJ: 2.1d MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

26. The action of neurotransmitters is _____ by agonists and is _____ by antagonists.
- increased; decreased
 - decreased; increased
 - increased; not affected by
 - not affected by; decreased

ANS: A DIF: Moderate OBJ: 2.1d MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

27. Suppose you begin feeling extremely depressed and want a prescription drug to alleviate your depression. The drug you should take should affect the neurotransmitter
- dopamine.
 - epinephrine.
 - serotonin.
 - acetylcholine.

ANS: C DIF: Moderate OBJ: 2.1d MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

28. Roberto's grandmother has Alzheimer's disease. Therefore, you would expect to see too _____ of the neurotransmitter _____ in her brain.
- much; acetylcholine
 - little; acetylcholine

- c. much; dopamine
- d. little; dopamine

ANS: B DIF: Difficult OBJ: 2.1d MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

29. Lionel has Parkinson's disease and has difficulty starting motor movements because the neurons involved with dopamine activity are
- a. dying off.
 - b. producing too much dopamine.
 - c. no longer producing dopamine.
 - d. rapidly multiplying.

ANS: A DIF: Difficult OBJ: 2.1d MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

30. You are running a 5-K race and suddenly you experience an adrenaline rush. This burst of energy is caused by your body releasing the neurotransmitter
- a. acetylcholine.
 - b. epinephrine.
 - c. glutamate.
 - d. dopamine.

ANS: B DIF: Easy OBJ: 2.1d MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

31. Marco has great difficulty walking. His doctor told him that this was due to a decreasing amount of a neurotransmitter in his brain. Which of the following neurotransmitters would be likely to cause this difficulty?
- a. epinephrine
 - b. norepinephrine
 - c. glutamate
 - d. dopamine

ANS: D DIF: Moderate OBJ: 2.1d MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

32. Benita is playing a very exciting video game and she finds that she wants to keep playing it more and more. Benita's desire is most likely activating the neurons in her brain that produce more of the neurotransmitter
- a. acetylcholine.
 - b. epinephrine.
 - c. serotonin.
 - d. dopamine.

ANS: D DIF: Difficult OBJ: 2.1d MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

33. Which specialized area of the brain is crucial to the production of speech?
- a. Broca's area
 - b. amygdala
 - c. cerebellum

d. thalamus

ANS: A DIF: Easy OBJ: 2.2a MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

34. Which of the following is NOT a modern method for accurately measuring brain activity?
- a. phrenology
 - b. transcranial magnetic stimulation (TMS)
 - c. functional magnetic resonance imaging (fMRI)
 - d. electroencephalograph (EEG)

ANS: A DIF: Easy OBJ: 2.2a MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

35. The measure of brain activity that temporarily “turns off” parts of the brain to see how specific brain regions are affected is called
- a. phrenology.
 - b. transcranial magnetic stimulation (TMS).
 - c. functional magnetic resonance imaging (fMRI).
 - d. electroencephalograph (EEG).

ANS: B DIF: Difficult OBJ: 2.2a MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

36. Lisa has problems sleeping so she goes to a sleep clinic. At the clinic the researchers measure her brain’s electrical activity as she sleeps by using the technique of
- a. electroencephalographs.
 - b. transcranial magnetic stimulation.
 - c. functional magnetic resonance imaging.
 - d. phrenology.

ANS: A DIF: Easy OBJ: 2.2a MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 5, Professional Development

37. The area of the brain that allows you to initiate voluntary motor activity is the
- a. hindbrain.
 - b. midbrain.
 - c. occipital lobe.
 - d. temporal lobe.

ANS: B DIF: Easy OBJ: 2.2b MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

38. Your motivations and emotions are controlled by the
- a. hindbrain.
 - b. cerebellum.
 - c. forebrain.
 - d. thalamus.

ANS: C DIF: Easy OBJ: 2.2b MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

39. The part of your brain that makes it possible for you to learn how to ride a bike and stay balanced while doing so is the
- thalamus.
 - cerebellum.
 - amygdala.
 - hypothalamus.

ANS: B DIF: Easy OBJ: 2.2b MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

40. Basic survival functions such as heart rate are controlled by the
- thalamus.
 - cerebellum.
 - hippocampus.
 - brain stem.

ANS: D DIF: Easy OBJ: 2.2b MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

41. Damage to this area of the brain might cause problems with coordination and balance.
- hippocampus
 - cerebellum
 - amygdala
 - temporal lobe

ANS: B DIF: Moderate OBJ: 2.2b MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

42. Doctors finally understood why the child had difficulty with involuntary breathing. They discovered that she had a large tumor located in her
- thalamus.
 - amygdala.
 - hippocampus.
 - brain stem.

ANS: D DIF: Easy OBJ: 2.2b MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

43. Which part of the brain would be the most helpful in helping you walk along a balance beam without falling off?
- brain stem
 - hypothalamus
 - cerebellum
 - temporal lobe

ANS: C DIF: Moderate OBJ: 2.2b MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

44. Yves has been drinking. He has difficulty walking a straight line when asked to do so by a police officer. Apparently, Yves's _____ is functioning poorly.
- cerebellum
 - thalamus

- c. amygdala
- d. hippocampus

ANS: A DIF: Moderate OBJ: 2.2b MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

45. According to Maguire and colleagues' study on the brain structures of London taxi drivers, which part of a taxi driver's brain is more likely to be larger than normal?
- a. frontal lobe
 - b. hippocampus
 - c. cerebellum
 - d. thalamus

ANS: B DIF: Easy OBJ: 2.2c MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

46. The brain structure that is associated with the formation of memories is the
- a. thalamus.
 - b. cerebellum.
 - c. hippocampus.
 - d. hypothalamus.

ANS: C DIF: Easy OBJ: 2.2c MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

47. Which of the following brain structures plays an important role in how we respond to fearful things?
- a. hypothalamus
 - b. hippocampus
 - c. amygdala
 - d. thalamus

ANS: C DIF: Easy OBJ: 2.2c MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

48. The basal ganglia is a brain structure that is important in
- a. planning and producing movement.
 - b. regulating emotions.
 - c. synthesizing incoming information.
 - d. thinking.

ANS: A DIF: Easy OBJ: 2.2c MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

49. The thalamus receives nearly all sensory information before relaying it to the cortex. What is the one sensation that is the exception to this rule?
- a. smell
 - b. vision
 - c. audition
 - d. taste

ANS: A DIF: Difficult OBJ: 2.2c MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

50. Which of the following is NOT located in the subcortical region of the forebrain?
- a. substantia nigra
 - b. amygdala
 - c. basal ganglia
 - d. hippocampus

ANS: A DIF: Moderate OBJ: 2.2c MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

51. Information travels from our sensory receptors to the _____ in the brain, which relays it to the cortex.
- a. basal ganglia
 - b. hypothalamus
 - c. thalamus
 - d. cerebellum

ANS: C DIF: Moderate OBJ: 2.2c MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

52. Miranda is working in a laboratory and comes across a rat that is grossly overweight and seems unable to stop eating. The researcher tells Miranda that the rat has a brain lesion. Which part of the brain most likely has the lesion?
- a. amygdala
 - b. hypothalamus
 - c. frontal lobe
 - d. brain stem

ANS: B DIF: Moderate OBJ: 2.2c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 5, Professional Development

53. Mario is highly afraid of spiders. Which part of the brain would be activated if he were to enter a room that had a lot of spiders?
- a. hypothalamus
 - b. hippocampus
 - c. amygdala
 - d. thalamus

ANS: C DIF: Moderate OBJ: 2.2c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

54. Mrs. Fine is highly interested in learning about the emotions of her fourth graders. Which of the following journal articles would be a good fit for her interests?
- a. "What You Need to Know About Your Thalamus"
 - b. "The Basics of Basal Ganglia"
 - c. "How the Cerebellum Works"
 - d. "The Amazing Amygdala"

ANS: D DIF: Moderate OBJ: 2.2c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 5, Professional Development

55. A post office receives lots of incoming mail, organizes it, and then sends it out to various locations. Which part of the brain is a lot like a post office?
- a. basal ganglia
 - b. hypothalamus
 - c. thalamus
 - d. cerebellum

ANS: C DIF: Difficult OBJ: 2.2c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

56. Auditory information is processed in the _____ lobes of the cerebral cortex.
- a. occipital
 - b. parietal
 - c. temporal
 - d. frontal

ANS: C DIF: Easy OBJ: 2.2d MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

57. Visual information is processed in the _____ lobes of the cerebral cortex.
- a. occipital
 - b. parietal
 - c. temporal
 - d. frontal

ANS: A DIF: Easy OBJ: 2.2d MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

58. The brain structure that connects the two hemispheres of the cerebral cortex is called the
- a. thalamus.
 - b. basal ganglia.
 - c. temporal lobe.
 - d. corpus callosum.

ANS: D DIF: Easy OBJ: 2.2d MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

59. The part of the brain that is responsible for the sense of touch and for picturing the layout of spaces in the environment is the _____ lobes.
- a. frontal
 - b. parietal
 - c. temporal
 - d. occipital

ANS: B DIF: Easy OBJ: 2.2d MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

60. Brad has experienced a relatively severe left hemisphere stroke. As a result, he is unable to move his right arm and has a great deal of difficulty with planning and attention. The stroke most likely caused damage to the _____ lobes.
- a. frontal
 - b. parietal

- c. temporal
- d. occipital

ANS: A DIF: Difficult OBJ: 2.2d MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

61. Jonas has experienced a relatively severe right hemisphere stroke. As a result, he has been diagnosed with hemineglect. That is, he is unable to notice anything on the left side of his body. The location of the stroke is most likely within the _____ lobes.
- a. frontal
 - b. parietal
 - c. temporal
 - d. occipital

ANS: B DIF: Difficult OBJ: 2.2d MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 2, Scientific Inquiry and Critical Thinking

62. A child gets a severe blow to the head from an accident. Although her eyes are still fully functional, she can no longer see. Based on this information, her doctor determines that the brain area most likely damaged in the accident is the _____ lobes.
- a. frontal
 - b. parietal
 - c. temporal
 - d. occipital

ANS: D DIF: Moderate OBJ: 2.2d MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

63. Samantha recently became blind and is learning to use her fingers to read in braille. The part of her brain that will be activated by touching the bumps on the page as she reads the braille is the _____ lobes.
- a. frontal
 - b. parietal
 - c. temporal
 - d. occipital

ANS: B DIF: Difficult OBJ: 2.2d MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 2, Scientific Inquiry and Critical Thinking

64. The central nervous system (CNS) is made up of the
- a. somatic and peripheral nervous systems.
 - b. brain and spinal cord.
 - c. somatic nervous system and the brain.
 - d. peripheral nervous system and the spinal cord.

ANS: B DIF: Easy OBJ: 2.3a MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

65. The somatic nervous system processes information between the central nervous system and your
- a. glands.

- b. internal organs.
- c. skin, muscles, and joints.
- d. eye, ears, nose, and mouth.

ANS: C DIF: Easy OBJ: 2.3b MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

66. The somatic nervous system allows
- a. hormones to secrete.
 - b. movement of the muscles and joints.
 - c. signals to be transmitted to the body's glands.
 - d. the body to return to a calm, resting state.

ANS: B DIF: Moderate OBJ: 2.3b MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

67. The somatic nervous system is NOT responsible for processing information about feeling
- a. a sense of sadness after learning you did poorly on a test
 - b. tingling sensations when your arm falls asleep
 - c. where your foot is on the stairs as you climb them
 - d. a mosquito landing on your neck

ANS: A DIF: Moderate OBJ: 2.3b MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

68. When you paint with a paintbrush, your brain sends messages to your finger muscles so that your fingers move in specific ways. This example illustrates the functions of the _____ system.
- a. somatic nervous
 - b. autonomic nervous
 - c. parasympathetic
 - d. endocrine

ANS: A DIF: Moderate OBJ: 2.3b MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

69. If your hand were to automatically jerk back after accidentally touching a hot kettle, which of the following systems would be responsible for this moment?
- a. somatic nervous system
 - b. sympathetic nervous system
 - c. parasympathetic nervous system
 - d. endocrine system

ANS: A DIF: Moderate OBJ: 2.3b MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

70. Your body is prepared for defensive action by the _____ system.
- a. somatic nervous
 - b. sympathetic nervous
 - c. parasympathetic nervous
 - d. endocrine

ANS: B DIF: Easy OBJ: 2.3c MSC: Remembering

NOT: APA Goal 1, Knowledge Base in Psychology

71. After cautiously walking home and arriving safely from her late-night class, Selma notices that both her heart rate and breathing slow down. This automatic return to a normal state is due to the activity of her _____ system.
- a. somatic nervous
 - b. sympathetic
 - c. parasympathetic
 - d. endocrine

ANS: C DIF: Easy OBJ: 2.3c MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

72. When walking to his car late at night, Otto is extra vigilant and his body is on alert for danger. These responses are due to the actions of the _____ system.
- a. somatic nervous
 - b. sympathetic
 - c. central nervous
 - d. endocrine

ANS: B DIF: Easy OBJ: 2.3c MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

73. As you work outside in the yard, you work up a pretty good sweat. Your sweating is due in part to the functioning of your _____ system.
- a. somatic nervous
 - b. autonomic nervous
 - c. central nervous
 - d. endocrine

ANS: B DIF: Moderate OBJ: 2.3c MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

74. People who were at the scene of the Boston Marathon bombing probably experienced
- a. an activation of their sympathetic nervous systems.
 - b. increased activity in the parietal lobes.
 - c. temporary changes to their somatic nervous systems.
 - d. permanent changes to their endocrine systems.

ANS: A DIF: Easy OBJ: 2.3c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

75. Nasim is driving on a snow-covered road, and her car begins to slide. The quick behavioral response and the increased heart rate and respiration she experiences are most likely due to the _____ nervous system. The feeling of relief and decrease in heart rate and respiration once she has the car under control again are most likely due to the _____ nervous system.
- a. parasympathetic; sympathetic
 - b. sympathetic; parasympathetic
 - c. autonomic; somatic
 - d. somatic; autonomic

ANS: B DIF: Moderate OBJ: 2.3c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

76. The communication system in your body by which hormones influence thoughts, behaviors, and actions is the _____ system.
- a. somatic nervous
 - b. sympathetic
 - c. parasympathetic
 - d. endocrine

ANS: D DIF: Easy OBJ: 2.3d MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

77. Endocrine glands release
- a. neurotransmitters.
 - b. receptors.
 - c. hormones.
 - d. glutamate.

ANS: C DIF: Easy OBJ: 2.3d MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

78. The ovaries, testes, and adrenal gland are all part of the _____ system.
- a. pituitary
 - b. endocrine
 - c. autonomic nervous
 - d. somatic nervous

ANS: B DIF: Easy OBJ: 2.3d MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

79. Growth hormones have all of the following effects EXCEPT for increasing
- a. intelligence.
 - b. bone strength.
 - c. strength.
 - d. muscle mass.

ANS: A DIF: Moderate OBJ: 2.3d MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

80. What might happen to a person born with a dysfunction of the endocrine system?
- a. The person would have difficulty controlling motor movements.
 - b. The person would experience problems with sexual development and sexual behavior.
 - c. The person would have difficulty interpreting emotional expressions.
 - d. The person would experience problems with emotional arousal.

ANS: B DIF: Easy OBJ: 2.3d MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

81. If an athlete were using illegal growth hormones to increase her muscle growth, she would be trying to make changes to her
- a. somatic nervous system.

- b. behavioral genetics.
- c. autonomic nervous system.
- d. endocrine system.

ANS: D DIF: Moderate OBJ: 2.3d MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

82. Regarding the factors potentially influencing behavior, which of the following statements is true?
- a. Behavior overwhelmingly reflects genetics.
 - b. Behavior mainly stems from environmental causes.
 - c. Behavior is generated mainly by the endocrine system.
 - d. Behavior reflects an interaction between genetics and the environment.

ANS: D DIF: Easy OBJ: 2.4a MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

83. At conception, your _____ is fixed.
- a. genotype
 - b. phenotype
 - c. genotype and phenotype
 - d. none of the above

ANS: A DIF: Easy OBJ: 2.4b MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

84. An instructor looking at the faces of the students in her class is also looking at
- a. stereotypes.
 - b. archetypes.
 - c. genotypes.
 - d. phenotypes.

ANS: D DIF: Easy OBJ: 2.4b MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 5, Professional Development

85. It is possible for your _____ to change during your lifetime.
- a. taxonomic rank
 - b. archetypes
 - c. genotypes
 - d. phenotypes

ANS: D DIF: Easy OBJ: 2.4b MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

86. Which of the following would NOT be caused by your genotype?
- a. eye color
 - b. sex
 - c. Huntington's disease
 - d. music preference

ANS: D DIF: Easy OBJ: 2.4b MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

87. A genotype is _____, whereas a phenotype is _____.
- underlying; observed
 - expressed; inherited
 - genetic; environmental
 - dominant; recessive

ANS: A DIF: Moderate OBJ: 2.4b MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

88. Your little brother has blue eyes. His eye color is the result of
- his genotype.
 - his phenotype.
 - both his genotype and his environment.
 - both his phenotype and his environment.

ANS: C DIF: Difficult OBJ: 2.4b MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 2, Scientific Inquiry and Critical Thinking

89. Which of the following phenomena would NOT be part of a study in behavioral genetics?
- the effect of one environment on another environment
 - the effect of genes on one's environment
 - the effect of environmental and genetic interactions on biological phenomena
 - the effect of environmental and genetic interactions on psychological phenomena

ANS: A DIF: Easy OBJ: 2.4c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

90. You know that your professor is a fan of behavioral genetics based on which of the following comments?
- "Your family determines your behavior."
 - "Much of your personality is determined by your genes."
 - "There is no evidence to suggest that your environment influences your school achievement."
 - "Both your genes and your environment make you who you are today."

ANS: D DIF: Easy OBJ: 2.4c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 5, Professional Development

91. Bill and his sister Ann are twins; however, they cannot be
- monozygotic twins.
 - dizygotic twins.
 - fraternal twins.
 - told apart.

ANS: A DIF: Easy OBJ: 2.4c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

92. Behavioral geneticists are primarily interested in
- natural selection and the evolution of genes.
 - discovering how genes control behaviors.
 - proving that genes have the strongest influence on behavior.

d. studying the interaction between genes and environment.

ANS: D DIF: Moderate OBJ: 2.4c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

93. In considering the relative contributions of genes and environment, most scientists would agree that
- environment plays the most important role in shaping behavior.
 - only genes shape behavior.
 - environment has little effect on behavior.
 - genes and environment interact to determine behavior.

ANS: D DIF: Moderate OBJ: 2.4c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 5, Professional Development

94. The advantage of studying monozygotic twins is that
- all of their behaviors are identical.
 - they are treated the same in their environment.
 - they are easy to locate and track for research.
 - they are genetically identical.

ANS: D DIF: Moderate OBJ: 2.4c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

95. Which of the following is always true regarding dizygotic twins?
- They have different genotypes.
 - They have different phenotypes.
 - They have the same genotype.
 - They have the same phenotype.

ANS: A DIF: Moderate OBJ: 2.4c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

96. The textbook discusses the famous Minnesota Twin Project. Which of the following would best describe a conclusion that could be drawn from this study?
- Twins are more likely to experience a shared environment than a nonshared environment.
 - Monozygotic twins are more likely to experience a shared environment than are dizygotic twins.
 - There are more similarities among biological relatives than among adoptive relatives.
 - There are more similarities between monozygotic twins than between dizygotic twins.

ANS: C DIF: Difficult OBJ: 2.4c MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 2, Scientific Inquiry and Critical Thinking

97. The idea that the brain is extremely malleable and is continuously changing as a result of injury, experiences, or substances is known as
- myelination.
 - genetics.

- c. plasticity.
- d. phenotype.

ANS: C DIF: Easy OBJ: 2.4d MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology

98. In general, siblings of different ages raised together have
- a. the same genes but different environments.
 - b. the same environment but different genes.
 - c. different genes and different environments.
 - d. the same genes and the same environment.

ANS: C DIF: Moderate OBJ: 2.4d MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology

99. Which of the following is NOT a pathway through which the environment could affect your brain functioning?
- a. through plasticity
 - b. by strengthening neural connections
 - c. by brain reorganization
 - d. by changing your genotype

ANS: D DIF: Easy OBJ: 2.4d MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

100. Why do monozygotic twins have different phenotypes?
- a. They have different genotypes.
 - b. They have nonshared environments.
 - c. They have the same environments but different genes.
 - d. Because they are fraternal twins.

ANS: B DIF: Moderate OBJ: 2.4d MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology

SHORT ANSWER

1. At this very moment, you are using your nervous system to help you read and understand this question. Describe the three functions of the nervous system by explaining how you are using each function right now as you answer this question.

ANS:

Suggested answer: One of the functions of the nervous system is to receive sensory input. As I looked at the words on this page, I received visual information that was received by my nervous system. Another function of the nervous system is to process incoming information. After I looked at this test question, I used my nervous system to think about the words and what they meant. The nervous system also allows one to respond to incoming input by acting on it. I did this by choosing my words and writing down my answer.

DIF: Difficult OBJ: 2.1b MSC: Applying
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 2, Scientific Inquiry and Critical Thinking | APA Goal 4, Communication

2. Describe the difference between agonist and antagonistic drugs.

ANS:

Suggested answer: Agonists are drugs that enhance the actions of a neurotransmitter.

Antagonists are drugs that inhibit the actions of a neurotransmitter.

DIF: Moderate OBJ: 2.1c MSC: Remembering

NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication

3. Explain the key functions of serotonin. In your answer, be sure to discuss what is associated with a lack of serotonin in the brain.

ANS:

Suggested answer: Serotonin is involved in a wide range of psychological processes such as emotional states, impulse control, and dreaming. A lack of serotonin is believed to contribute to sad and anxious moods, food cravings, and aggressive behavior.

DIF: Moderate OBJ: 2.1d MSC: Remembering

NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication

4. Explain the key functions of dopamine. In your answer, be sure to discuss what occurs when there is a lack of dopamine in the brain.

ANS:

Suggested answer: Dopamine is involved in motivation and reward. For example, it motivates people to eat when hungry, drink when thirsty, or have sex when aroused. A lack of dopamine is associated with problems in movement, as occurs with Parkinson's disease.

DIF: Moderate OBJ: 2.1d MSC: Remembering

NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication

5. List the key structures of the hindbrain and explain the functions of each.

ANS:

Suggested answer: The brainstem and cerebellum are the key structures of the hindbrain. The brain stem houses nerves that control basic life functions such as breathing, heart rate, swallowing, vomiting, and urination. The cerebellum is responsible for motor learning, coordination, and balance.

DIF: Moderate OBJ: 2.2a MSC: Remembering

NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication

6. List the five subcortical structures of the forebrain. Then, briefly explain the function of each structure.

ANS:

Suggested answer: The subcortical structures of the forebrain include the thalamus, hypothalamus, hippocampus, amygdala, and basal ganglia. The thalamus is involved in sensory information. The hypothalamus is involved in the regulation of functions such as body temperature, hunger, and thirst. The hippocampus is involved in the formation of new memories. The amygdala is involved in the association of emotions with experiences. The basal ganglia is involved in motor planning, movement, and reward.

DIF: Moderate OBJ: 2.2c MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication

7. A man is rushed to the hospital after an injury that severely damaged his hippocampus. What kinds of problems might he expect due to this damage?

ANS:

Suggested answer: Because the hippocampus plays an important role in the formation of new memories, the man is likely to have difficulty remembering new information.

DIF: Easy OBJ: 2.2c MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication

8. List the four lobes of the cerebral cortex and explain the functions of each.

ANS:

Suggested answer: The cerebral cortex contains the occipital, parietal, temporal, and frontal lobes. The occipital is involved in vision. The parietal lobe is involved in touch and spatial information. The temporal lobe is involved in hearing and memory. The frontal lobe is involved in planning, movement, and complex thought.

DIF: Moderate OBJ: 2.2d MSC: Remembering
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication

9. Describe the famous historical case of Phineas Gage. What happened to Gage and what did it teach psychologists about the brain?

ANS:

Suggested answer: Phineas Gage was a construction worker who experienced severe damage to his prefrontal cortex after a railroad accident. As a result of the injury, Gage's personality seemed to change and he no longer was the man he used to be. He became impatient, had difficulty controlling himself, and getting along with others. This taught psychologists about the specific functions of the prefrontal cortex. Specifically, it suggested that the prefrontal cortex of the frontal lobe was responsible for the sense of self and was important for many aspects of human social life including empathy, rational thought, and sustaining attention.

DIF: Difficult OBJ: 2.2d MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication | APA Goal 5, Professional Development

10. Distinguish between the functions of the sympathetic nervous system and the parasympathetic nervous system.

ANS:

Suggested answer: The sympathetic nervous system prepares the body for action. When activated, it causes the pupils to dilate and causes increases in heart rate and respiration. In contrast, the parasympathetic nervous system returns the body to a normal state of functioning. When activated it causes the pupils to contract and decreases heart rate and respiration.

DIF: Moderate OBJ: 2.3a MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication

11. What kind of information is transmitted by the somatic nervous system? How is this information transmitted?

ANS:

Suggested answer: The somatic nervous system transmits sensory information. It transmits sensory information to the central nervous system through receptors in the skin, muscles, and joints.

DIF: Difficult OBJ: 2.3b MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication

12. What is the endocrine system and how does it influence behavior?

ANS:

Suggested answer: The endocrine system is a communication system that involves glands and hormones. The glands produce and release hormones. These hormones travel through the bloodstream and influence thoughts and actions.

DIF: Moderate OBJ: 2.3d MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication

13. Distinguish between genotype and phenotype. Then, give an example of each.

ANS:

Suggested answer: Genotype is your genetic makeup. An example of genotype is eye color. Phenotype is your observable physical and psychological characteristics. An example of phenotype is your level of friendliness.

DIF: Easy OBJ: 2.4a MSC: Understanding
NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication

14. While speaking to a large audience, Dr. Neuro states that the brain has plasticity. Your roommate turns to you and says, "I have no idea what plasticity means." Provide your roommate with an explanation of brain plasticity. In doing so, provide an example.

ANS:

Suggested answer: Plasticity describes a property of the brain. Plasticity means that the brain can physically change as a result of experience, drugs, or injury. For example, if one side of the brain's hemisphere is damaged during an injury, the brain can reorganize itself so that the uninjured hemisphere can take on some of the functions of the lost hemisphere.

DIF: Moderate OBJ: 2.4a MSC: Understanding

NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication | APA Goal 5, Professional Development

15. What do behavioral geneticists study?

ANS:

Suggested answer: Behavioral geneticists use twin studies to examine how genes and environment interact to influence thought and behavior.

DIF: Easy OBJ: 2.4c MSC: Understanding

NOT: APA Goal 1, Knowledge Base in Psychology | APA Goal 4, Communication | APA Goal 5, Professional Development