Test Bank for Biological Psychology 1st Edition by Lambert

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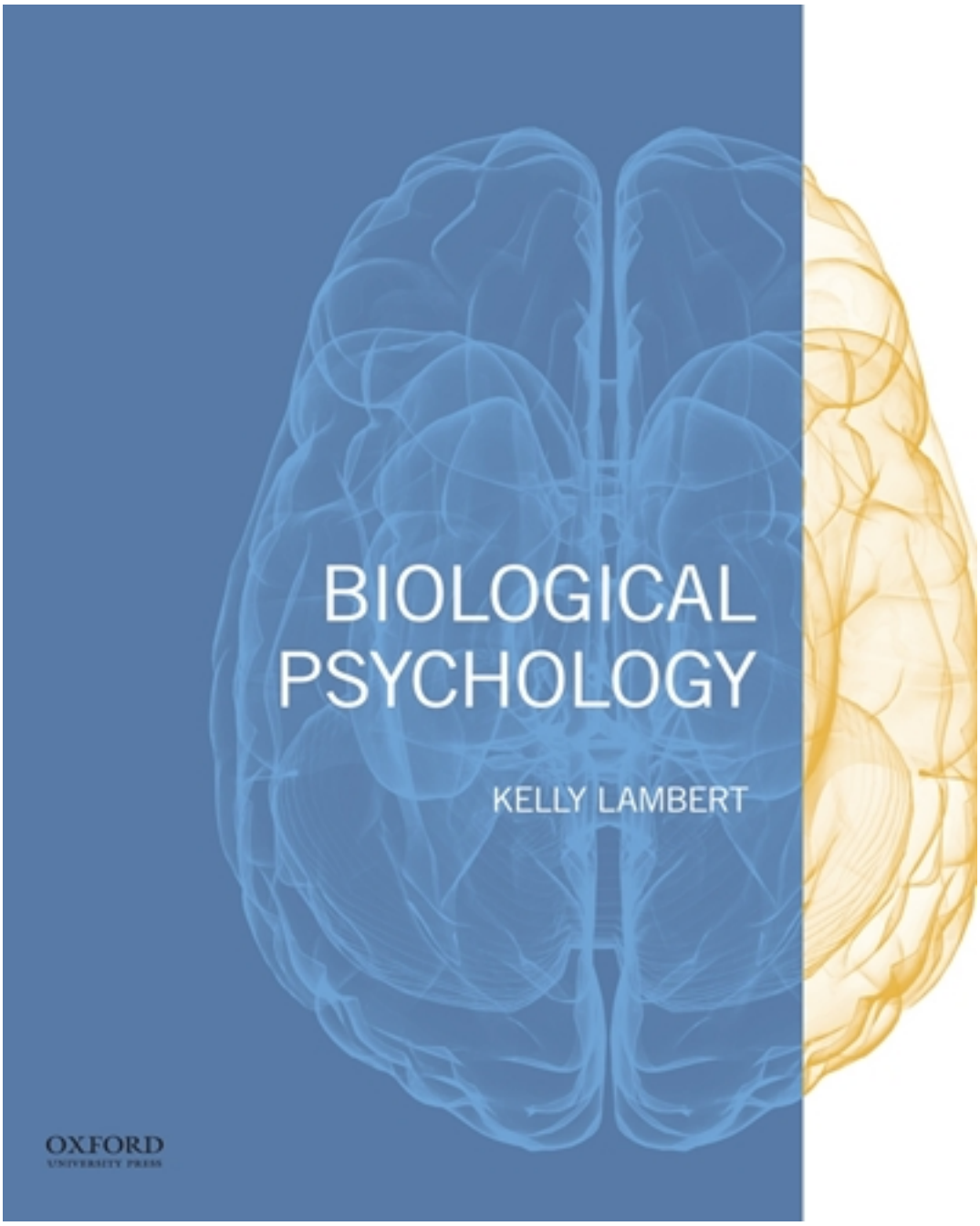

Test Bank

Chapter 2 The Nervous System: Structure and Function

Multiple Choice

Difficulty: Easy
Ans: b
Factual
Pages 33, 36

1. _____ are only one of the cell types found in the nervous system.
   a. Soma
   b. Neurons*
   c. Mitochondria
   d. Myelin

Difficulty: Easy
Ans: a
Factual
Pages 33, 38

2. Your biopsychology professor keeps correcting you to remind you to refer to single cells of the nervous system as _____ and not as _____.
   a. neurons; nerves*
   b. nerve cells; nerves
   c. ganglion; nerves
   a. nerves; neurons

Difficulty: Easy
Ans: b
Factual
Page 36

3. The cells supporting the neurons of the brain are the _____
   a. neurons.
   b. glia.*
   c. neurofilaments.
   d. Schwann cells.

Difficulty: Moderate
Ans: a
Factual
Page 34

4. _____ have a branched structure and receive stimulation from other neurons.
   a. Dendrites*
   b. Axons
   c. Glial cells
   d. Soma

Difficulty: Moderate
Ans: a
Factual
Page 34

5. The dendrites of a neuron_____
   a. have expanded their surface area by developing dendritic spines.*
   b. house the ribosomes of the cell.
   c. transmit neural impulses to the glia.
   a. release messages to neighboring neurons.

Difficulty: Easy
Ans: b
Factual
Page 34

6. The part of a neuron that contains the nucleus is called the _____
   a. axon.
   b. soma.*
   c. dendrite.
   d. mitochondrion.

Difficulty: Easy

7. The most prominent part of the neuron is the _____

Ans: a
Factual
Page 34

a. soma.*
b. axon.
c. terminal.
d. dendritic process.

Difficulty: Easy
Ans: b
Factual
Page 35

8. The part of a neuron that sends information to another neuron is the _____
a. soma.
b. axon.*
c. dendrite.
d. synapse.

Difficulty: Easy
Ans: a
Factual
Page 35

9. The axon of a neuron _____
a. ends in swellings known as terminal branches.*
b. receives messages from other neurons.
c. transmits neural impulses to the soma.
d. contains the cell's nucleus.

Difficulty:
Difficult
Ans: c
Factual
Page 39

10. Sensory neurons _____
a. control muscles and produce movement.
b. send messages away from the brain toward the periphery.
c. gather information from the environment and convey it into the central nervous system.*
d. produce axons covered with myelin.

Difficulty: Easy
Ans: d
Factual
Page 35

11. In _____ neurons the axon and the dendrites branch out from the soma in multiple directions.
a. multi-fibered
b. unipolar
c. bipolar
d. multipolar

Difficulty: Easy
Ans: c
Factual
Page 35

12. A _____ neuron has an axon and the dendritic processes exiting from opposite ends of the soma.
a. motor
b. unipolar
c. bipolar*
d. multipolar

Difficulty: Easy
Ans: b
Factual
Page 35

13. The soma of a _____ neuron gives rise to a short projection that divides into two branches.
a. uni-fibered
b. unipolar*

c. bipolar
d. multipolar

Difficulty: Easy
Ans: c
Factual
Page 39

14. A(n) _____ would be transmitting impulses between a sensory neuron with a motor neuron.
a. glial neuron
b. projection
c. interneuron*
d. multipolar

Difficulty: Easy
Ans: d
Conceptual
Page 39

15. Negotiations can be said to involve an "intermediary" who communicates between two parties. The "intermediary" between a sensory neuron and a motor neuron is a _____
a. synapse.
b. projection neuron.
c. glial cell.
d. interneuron.*

Difficulty: Easy
Ans: d
Factual
Page 35

16. Most neurons in the brain are _____.
a. motor neurons
b. unipolar neurons
c. bipolar neurons
d. multipolar neurons*

Difficulty: Easy
Ans: b
Factual
Page 37

17. A disease that destroys myelin is _____
a. Alzheimer's disease.
b. multiple sclerosis.*
c. Parkinson's disease.
d. neuropathy.

Difficulty: Moderate
Ans: b
Conceptual
Page 37

18. Loss of myelin from neurons would be expected to _____
a. speed up nerve cell electrical conduction.
b. greatly impair neuronal electrical conduction.*
c. increase the amplitude of the action potential.
d. prevent the removal of dead nerve cells in the brain.

Difficulty: Easy
Ans: c
Factual
Page 33

19. Who first proposed that individual neurons were not in direct contact with each other?
a. Golgi
b. Loewi
c. Cajal*
d. Ranvier

Difficulty: Easy
Ans: d
Factual
Pages 48, 49

20. The midbrain includes _____
a. the superior colliculi
b. the tegmentum
c. the tectum

d. all of the above.*

Difficulty: Moderate
Ans: a
Factual
Page 46

21. Damage to the medulla can produce problems in _____
a. regulation of respiration.*
b. regulation of sleep.
c. filtering of sensory information.
d. motor coordination.

Difficulty: Easy
Ans: d
Factual
Pages 47, 49

22. Immediately_____ to the thalamus is the _____.
a. dorsal; pituitary gland
b. ventral; pituitary gland
c. dorsal; hypothalamus
d. ventral; hypothalamus

Difficulty: Moderate
Ans: a
Factual
Page 39

23. Which of the cranial nerves extends to the body's organs?
a. optic
b. auditory
c. olfactory
d. vagus*

Difficulty: Moderate
Ans: b
Factual
Page 35

24. The sites of protein synthesis in neurons are called _____
a. granule.
b. ribosomes.*
c. liposomes.
d. Golgi bodies.

Difficulty: Moderate
Ans: c
Conceptual
Page 36

25. What do you predict would happen if a purple dye made of a large protein molecule was injected into a rat's bloodstream?
a. The brain would be stained purple
b. The spinal cord would be stained purple.
c. All tissues except brain and spinal cord would be stained purple.
d. None of the body tissues would be stained purple.

Difficulty: Moderate
Ans: c
Factual
Page 37

26. The cells that produce myelin in the Peripheral Nervous System (PNS) are called _____
a. Astrocytes.
b. Oligodendrocytes
c. Schwann cells.*
d. Microglia.

Difficulty: Easy
Ans: a
Conceptual
Page 47

27. Being given a "pat on the back" refers to being hit on the body's _____ surface.
a. dorsal*
b. ventral
c. rostral

d. anterior

Difficulty: The
Ans: d
Conceptual
Page 47

28. The temporal lobes are _____ to the thalamus.
a. dorsal
b. rostral
c. medial
d. lateral*

Difficulty:
Moderate
Ans: a
Factual
Page 47

29. A cut through the brain that divides the two hemispheres (a cut "between the eyes") is called a _____ section.
a. sagittal*
b. coronal
c. horizontal
d. superior

Difficulty: Easy
Ans: c
Factual
Pages 39, 40

30. The two main parts of the peripheral nervous system are the
a. sympathetic and parasympathetic.
b. brain and spinal cord.
c. somatic and autonomic*
d. somatic and voluntary.

Difficulty:
Moderate
Ans: b
Factual
Pages 46, 48, 51

31. Which structure is part of the temporal lobes?
a. Cerebellum
b. Hippocampus *
c. Tectum
d. Tegmentum

Difficulty: Easy
Ans: b
Factual
Page 51

32. The visual information is processed in the _____ lobe.
a. parietal
b. occipital*
c. olfactory
d. frontal

Difficulty: Easy
Ans: c
Factual
Page 49

33. A primary function of the thalamus is to _____
a. regulate blood pressure.
b. control the pituitary gland.
c. relay information to the cerebral cortex.*
d. initiate hunger,

Difficulty:
Moderate
Ans: d
Conceptual
Page 50

34. The basal ganglia are important for _____
a. processing visual information.
b. processing auditory information.
c. directing attention.
d. regulating movement. *

Difficulty:

35. You've just eaten a huge meal consisting of a three meat barbecue

Moderate
Ans: c
Conceptual
Pages 42, 43

plate (spareribs, brisket, polish sausage) with sides of beans, French fries and corn on the cob, cornbread with butter, 2 quarts of sweet tea, 2 slices of apple pie, and a wafer-thin mint. Your _____ is likely highly activated at this time.

a. somatic nervous system
b. sympathetic nervous system
c. parasympathetic nervous system*
d. basal ganglia

Difficulty: Moderate
Ans: c
Conceptual
Page 42

36. You've just been mugged and punched. Your _____ is likely highly activated at this time

a. somatic nervous system
b. sympathetic nervous system*
c. parasympathetic nervous system
d. basal ganglia

Difficulty: Moderate
Ans: d
Factual
Pages 46, 48

37. The reticular formation is a network of neurons in the brain that _____

a. controls respiration.
b. regulates blood pressure.
c. processes odor information.
d. can cause you to pay attention to a new sound.*

Difficulty: Easy
Ans: d
Factual
Page 34

38. The _____ initiates the process of propagating neural messages away from the soma toward a target such as another neuron.

a. Golgi apparatus
b. mitochondria
c. dendrite
d. axon hillock*

Difficulty: Easy
Ans: b
Factual
Page 38

39. Cabled axons of multiple neurons within the central nervous system are called _____

a. nerves.
b. tracts.*
c. projections.
d. commissures.

Difficulty: Moderate
Ans: c
Factual
Page 16

40. When a dominant gene is paired with a recessive gene, the gene pair is said to be _____ for that trait.

a. homozygous
b. phenotypic
c. heterozygous*
d. polygenic

Difficulty:

41. As a group, the 12 cranial nerves differ from spinal nerves in that

Difficult
Ans: b
Factual
Page 39

they _____
a. only project to the head, neck and shoulders.
b. exit directly from the brain.*
c. carry only sensory information.
d. carry only motor commands.

Difficulty: Easy
Ans: a
Factual
Page 39

42. Each spinal nerve projects to a specific patch of skin on the body surface called a _____
a. dermatome.*
b. somatotome.
c. receptive field.
d. target field.

Difficulty: Moderate
Ans: d
Factual
Page 46

43. The lowest level of the brain is called the _____
a. telencephalon.
b. myelencephalon.*
c. metencephalon.
d. mesencephalon.

Difficulty: Moderate
Ans: c
Factual
Page 49

44. The highest level of the brain is called the _____.
a. mesencephalon
b. diencephalon
c. telencephalon*
d. myelencephalon

Difficulty: Moderate
Ans: c
Factual
Page 50

45. Parkinson's disease affects the function of the _____.
a. cerebellum.
b. limbic system.
c. basal ganglia.*
d. reticular formation.

Difficulty: Easy
Ans: a
Factual
Page 50

46. Epileptics experiencing intense emotions instead of convulsions may be having a _____ seizure.
a. limbic system*
b. basal ganglia
c. reticular formation
d. cerebellar

Difficulty: easy
Ans: c
Factual
Page 51

47. The limbic system is present in _____
a. fish.
b. reptiles.
c. mammals.*
d. worms.

Difficulty:

48. The bulges on the surface of the cerebral cortex are referred to as

Moderate
Ans: b
Factual
Page 51

_____
a. sulci.
b. gyri.*
c. lobes.
d. tuberosities.

Difficulty: Easy
Ans: c
Factual
Page 53

49. The misfortune of Phineas Gage helped illuminate the function of the _____
a. parietal lobe.
b. temporal lobe
c. frontal lobe.*
d. occipital lobe.

Difficulty: Difficult
Ans: d
Factual
Page 54

50. One of the specialized functions of the left cerebral hemisphere is _____
a. mathematics.
b. musical ability.
c. motor skills.
d. language.*

Difficulty: Easy
Ans: a
Factual
Page 56

51. The body's tendency to maintain a consistent internal environment is called _____
a. homeostasis.*
b. metastasis.
c. allostasis.
d. resilience.

Difficulty: Moderate
Ans: b
Factual
Page 56

52. The body's management of the varying energy demands across organs in response to stress is called _____
a. homeostasis.
b. metastasis.
c. allostasis. *
d. resilience.

Difficulty: Difficult
Ans: a
Conceptual
Page 58

53. The work of Ader and Cohen established _____
a. that the nervous and immune systems communicate cooperatively.*
b. the function of the limbic system.
c. the effects of split-brain surgery.
d. the role of the sympathetic nervous system in digestion.

Difficulty: Difficult
Ans: c

54. The immune response within the central nervous system (CNS) is _____
a. more intense than the immune response in the

Conceptual
Page 59

peripheral nervous system (PNS).
b. slower than the immune response in the peripheral nervous system (PNS) but just as strong.
c. weaker than the immune response in the peripheral nervous system (PNS).*
d. more selective than the immune response in the peripheral nervous system (PNS).

Difficulty: Moderate
Ans: d
Factual
Page 57

55. The acquired immune system, or adaptive immune system, was identified by _____
a. Neal Miller.
b. Ader and Cohen.
c. Bruce McEwen.
d. Edward Jenner.*

Difficulty: Easy
Ans: d
Factual
Page 55

56. The choroid plexus renews the total volume of cerebrospinal fluid (CSF) _____ per day.
a. once
b. twice.
c. ten times
d. three times*

Difficulty: Moderate
Ans: a
Conceptual
Page 52

57. Compared with other mammals, humans have a _____ cerebral cortex.
a. disproportionately large *
b. disproportionately small
c. proportionately sized
d. slightly larger

Difficulty: Moderate
Ans: a
Factual
Page 51

58. The _____ separates the primary motor cortex in the frontal lobe from the primary somatosensory cortex in the parietal lobe
a. central fissure*
b. central gyrus
c. insula
d. basal ganglia

Difficulty: Easy
Ans: c
Factual
Pages 51

59. The human brain's cerebral cortex is divided into how many distinct cellular layers?
a. four
b. five
c. six*
d. seven

Difficulty: Difficult

60. Parkinson's disease results from suboptimal activation of the basal ganglia due to an inadequate supply of _____.

Ans: d
Factual
Page 50

a. cerebrospinal fluid (CSF).
b. glucocorticoids.
c. adrenaline.
d. dopamine.*

Difficulty: Moderate
Ans: c
Factual
Page 59

61. The insertion of fluorescent protein genes found in jellyfish and coral into mouse genes is the basis of _____
a. psychoneuroimmunology.
b. biofeedback.
c. Brainbow transgenic mice.*
d. allostasis.

Difficulty: Moderate
Ans: b
Factual
Page 58

62. Which of the following would activate the adaptive immune system?
a. Glucocorticoids
b. Antigens*
c. Adrenaline
d. Allostatic overload

Difficulty: Difficult
Ans: a
Factual
Page 56

63. If stress continues for too long the result can be described as
a. allostatic overload.*
b. homeostasis.
c. hypertension.
d. hyperthyroidism.

Difficulty: Moderate
Ans: b
Factual
Page 55

64. The _____ provides buoyancy and physical space that acts as a buffer when the brain is jolted as a result of sudden movement.
a. dura mater.
b. cerebrospinal fluid (CSF)*
c. pia mater
d. arachnoid mater

Difficulty: Easy
Ans: a
Conceptual
Page 54

65. A person with a split-brain surgery has objects presented visually in front of them. What might be expected?
a. They could respond verbally only if the left hemisphere was activated by the right visual field. *
b. They could respond verbally only if the left hemisphere was activated by the left visual field.
c. They could respond verbally only if the right hemisphere was activated by the left visual field.
d. They could respond verbally only if the right hemisphere was activated by the right visual field.

Difficulty: Difficult

66. You have a very clear memory for what you were wearing on the day you proposed marriage to your significant other. Why might

Ans: d
Conceptual
Page 51

this be the case?

a. Reduced serotonin activity in the reticular formation.
b. Seizure activity in the basal ganglia.
c. Increased motor inputs to the cerebellum.
d. Stress hormone activation of the hippocampus.*

Difficulty: Easy
Ans: a
Factual
Pages 46, 53

67. Which of the following structures is the least critical for maintaining basic autonomic functions?

a. Forebrain*
b. Cerebellum
c. Medulla oblongata
d. Hypothalamus

Difficulty: Moderate
Ans: c
Conceptual
Page 46

68. Which of the following structures is the most critical for maintaining basic autonomic functions?

a. Forebrain
b. Cerebellum
c. Medulla oblongata *
d. Hypothalamus

Difficulty: Easy
Ans: d
Conceptual
Pages 44, 45

69. Which of the following conditions should result in the least amount of neurogenesis in rats?

a. Socially housed rats allowed to run.
b. Socially housed rats not allowed to run.
c. Individually housed rats allowed to run.
d. Individually housed rats not allowed to run.*

Difficulty: Moderate
Ans: a
Conceptual
Pages 44, 45

70. Which of the following conditions should result in the greatest amount of neurogenesis in rats?

a. Socially housed rats allowed to run. *
b. Socially housed rats not allowed to run.
c. Individually housed rats allowed to run.
d. Individually housed rats not allowed to run.

Difficulty: Difficult
Ans: c
Factual
Page 39

71. After damage, neurons in the central nervous system (CNS) do not regenerate because _____

a. microglia do not readily clear away debris from the damage.
b. of the presence of inhibitory proteins
c. astrocytes promote the formation of scar tissue.
d. All of the above options are correct.*

Difficulty: Difficult
Ans: b
Factual

72. Isotropic fractionation was used to answer what question about the brain?

a. The amount of myelin loss in Multiple Sclerosis (MS).
b. Relative overall number of glial cells versus neurons.*

Page 37

c. The speed of a nerve signal.
d. The rate of cerebrospinal fluid (CSF) synthesis.

Difficulty: Moderate
Ans: d
Factual
Page 34

73. Gaps along the axon between segments of myelin are called _____.
a. dendritic spines
b. terminal branches
c. axon hillocks
d. nodes of Ranvier*

Difficulty: Difficult
Ans: a
Conceptual
Page 32

74. Stimulating activity of what brain region would be predicted to enhance the effectiveness of biofeedback techniques?
a. insular cortex*
b. parietal cortex.
c. the cerebellum
d. the amygdala

Difficulty: Moderate
Ans: c
Conceptual
Pages 57

75. _____ are an important part of the adaptive immune system.
a. Phagocytes
b. Macrophages
c. T-cells*
d. Microglia

Difficulty: Moderate
Ans: d
Factual
Page 56

76. In response to environmental stressors the adrenal medulla releases _____
a. corticotropin-releasing hormone (CRH).
b. adrenocorticotropic hormone (ACTH).
c. glucocorticoids
d. adrenaline. *

Difficulty: Easy
Ans: c
Factual
Page 56

77. In response to environmental stressors the adrenal cortex releases _____
a. corticotropin-releasing hormone (CRH).
b. adrenocorticotropic hormone (ACTH).
c. glucocorticoids.*
d. adrenaline.

Difficulty: Moderate
Ans: c
Factual
Page 55

78. The choroid plexus produces _____
a. neuronal stem cells.
b. microglia.
c. cerebrospinal fluid (CSF).*
d. the blood-brain barrier.

Difficulty: Moderate

79. Brain lateralization means _____
a. the two cerebral hemispheres have specialized

Ans: a
Conceptual
Page 53

functions.*
b. anatomical structures on one side of the brain have a twin counterpart on the other.
c. the two cerebral hemispheres are connected.
d. damage to one of the two cerebral hemispheres can be compensated for by the other.

Difficulty: Moderate
Ans: c
Factual
Pages 53, 54

80. Split-brain surgery conducted to treat epilepsy also provided evidence for _____
a. multiple personalities.
b. the biological basis of depression.
c. brain lateralization.*
d. none of the above options are correct.

Difficulty: Moderate
Ans: c
Factual
Page 51

81. Which lobe of the cerebral cortex is dedicated to the control of movement and decision making?
a. Parietal lobe
b. Temporal lobe
c. Frontal lobe*
d. Occipital lobe

Difficulty: Moderate
Ans: b
Factual
Page 49

82. Which of the following structures is critical for the regulation of the pituitary gland?
a. thalamus
b. hypothalamus*
c. amygdala
d. basal ganglia

Difficulty: Easy
Ans: d
Factual
Page 49

83. The corpus callosum connects what two structures?
a. The hippocampus and amygdala
b. The brain stem and forebrain
c. The thalamus and hypothalamus
d. The right and left cerebral hemispheres*

Difficulty: Moderate
Ans: c
Factual
Page 46

84. The use of field sobriety tests by the police are intended to assess the function of _____
a. the pons.
b. the medulla oblongata.
c. the cerebellum.*
d. the basal ganglia.

Difficulty: Difficult
Ans: a
Factual
Pages 46, 48, 49,

85. Which of the following is part of the forebrain?
a. hippocampus*
b. cerebellum
c. superior colliculi
d. inferior colliculi

50

Difficulty: Difficult
Ans: d
Factual
Pages 46, 48, 49, 50

86. Which of the following is not part of the forebrain?
a. amygdala
b. basal ganglia
c. hypothalamus
d. red nucleus*

Difficulty: Difficult
Ans: a
Factual
Pages 46, 48, 49, 50

87. Which of the following is part of the midbrain?
a. inferior colliculi*
b. hypothalamus
c. basal ganglia
d. medulla oblongata

Difficulty: Difficult
Ans: c
Factual
Pages 46, 48, 49, 50

88. Which of the following is not part of the midbrain?
a. superior colliculi
b. inferior colliculi
c. basal ganglia*
d. periaqueductal gray

Difficulty: Difficult
Ans: c
Factual
Pages 46, 48, 49, 50

89. Which of the following is part of the brainstem?
a. hypothalamus
b. thalamus
c. superior colliculi*
d. basal ganglia

Difficulty: Difficult
Ans: d
Factual
Pages 46, 48, 49

90. Which of the following is not part of the brainstem?
a. pons
b. medulla oblongata
c. reticular formation
d. hypothalamus*

Difficulty: Easy
Ans: c
Factual
Page 44

91. The brain micromanages its energy expenditure in proportion to its missions because it consumes _____ of the body's fuel.
a. 5%
b. 15%
c. 25%*
d. 50%

Difficulty: Easy
Ans: c
Factual

92. Voluntary intentional movements of the skeletal muscles are controlled by the _____
a. sympathetic nervous system.

Page 39

b. parasympathetic nervous system.
c. somatic nervous system. *
d. autonomic nervous system.

Difficulty: Easy
Ans: b
Factual
Pages 43, 44

93. Which branch of the nervous system can be characterized as the "rest-and-digest" system?
a. sympathetic
b. parasympathetic*
c. somatic
d. autonomic

Difficulty: Moderate
Ans: d
Factual
Page 43

94. Activation of the sympathetic nervous system _____
a. prepares the individual for empathic contact with emotional individuals.
b. prepares the individual to store excess calories as fat.
c. prepares the individual for digesting a meal.
d. prepares the individual for strenuous physical responses.*

Difficulty: Moderate
Ans: c
Factual
Page 37

95. Up to 80% of the brain's neurons can be found in _____
a. the cerebral cortex.
b. the sympathetic nervous system
c. the cerebellum.*
d. the ganglia.

Difficulty: Moderate
Ans: b
Factual
Page 36

96. Endothelial cells with tight junctions in combination with _____ are responsible for the blood-brain barrier.
a. bipolar cells
b. astrocytes*
c. oligodendrocytes
d. microglia

Difficulty: Easy
Ans: a
Factual
Pages 31, 32

97. Self-proclaimed endurance artist _____ increased voluntary control over his autonomic breathing functions to break the world record for holding one's breath.
a. David Blaine*
b. Neal Miller
c. Camillo Golgi
d. Santiago Ramón y Cajal

Difficulty: Easy
Ans: b
Factual
Page 33

98. Who abandoned the *nerve net theory* and endorsed the notion that neurons are discrete units, not part of a continuous network?
a. Camillo Golgi
b. Santiago Ramón y Cajal*
c. Sir Charles Sherrington
d. Neal Miller

Difficulty: Easy
Ans: d
Factual
Page 32

99. Who demonstrated that autonomic functions were within individual voluntary control?
   a. Camillo Golgi
   b. Santiago Ramón y Cajal
   c. Sir Charles Sherrington
   d. Neal Miller*

Difficulty: Easy
Ans: a
Factual
Page 33

100. Who believed that the nervous system consisted of a continuous network of connected nerves?
   a. Camillo Golgi*
   b. Santiago Ramón y Cajal
   c. Sir Charles Sherrington
   d. Neal Miller

True/False

Difficulty: Easy
Ans: False
Factual
Pages 33, 38

1. An individual neuron can also be referred to as a nerve.
   a. True
   b. False

Difficulty: Easy
Ans: False
Factual
Page 38

2. Sensory neurons move the muscles.
   a. True
   b. False

Difficulty: Moderate
Ans: False
Factual
Page 34

3. The most common neuron in the central nervous system is the interneuron.
   a. True
   b. False

Difficulty: Moderate
Ans: False
Factual
Page 34

4. Dendritic spines are small fibers where terminal branches appear.
   a. True
   b. False

Difficulty: Easy
Ans: False
Factual
Page 34

5. The most common type of neuron in the nervous system is the bipolar neuron.
   a. True
   b. False

Difficulty: Difficult
Ans: True
Factual
Page 35

6. Most unipolar and bipolar neurons are sensory in nature.
   a. True
   b. False

Difficulty: Moderate
Ans: True
Factual
Page 36

7. The most important supporting cells in the nervous system are the glia.
   a. True
   b. False

Difficulty: Easy
Ans: True
Factual
Page 36

8. One function of microglia is to clean up the debris in the nervous system.
   a. True
   b. False

Difficulty: Easy
Ans: True
Factual
Pages 36, 37

9. The myelin sheath is formed by either oligodendrocytes or Schwann cells.
   a. True
   b. False

Difficulty:
Difficult
Ans: True
Factual
Page 50

10. Dopamine plays a key role in Parkinson's disease.
    a. True
    b. False

Difficulty:
Difficult
Ans: True
Factual
Page 37

11. Multiple sclerosis is the result of the loss of myelin.
    a. True
    b. False

Difficulty:
Difficult
Ans: True
Conceptual
Page 52

12. As brain complexity increases across species to humans, there is a disproportionate increase in the size of the cerebral cortex.
    a. True
    b. False

Difficulty:
Difficult
Ans: False
Factual
Page 38

13. The nervous system is divided into three subunits: the central nervous system, the spinal cord, and the peripheral nervous system.
    a. True
    b. False

Difficulty:
Moderate
Ans: True
Factual
Page 51

14. The cerebral cortex consists of gray matter.
    a. True
    b. False

Difficulty:
Difficult
Ans: False
Conceptual
Pages 52, 53

15. With frontal lobe damage the most common consequence is the loss of language.
    a. True
    b. False

Difficulty:
Difficult
Ans: True
Conceptual

16. Epilepsy in the limbic system produces strong feelings and emotions.
    a. True
    b. False

Page 50

Difficulty: Difficult
Ans: False
Factual
Page 39

17. The spinal nerves deal mostly with head, neck and shoulders.
a. True
b. False

Difficulty: Easy
Ans: True
Factual
Page 49

18. The hypothalamus controls the pituitary.
a. True
b. False

Difficulty: Difficult
Ans: True
Conceptual
Page 44

19. Neurogenesis can be improved by exercise.
a. True
b. False

Difficulty: Easy
Ans: True
Factual
Page 54

20. Split-brain surgery is primarily intended to be a surgical intervention to treat epilepsy.
a. True
b. False

Fill-in-the-Blank

Difficulty: Easy
Ans: Biofeedback techniques
Factual
Page 32

1. _____ can alter functions such as heart rate and blood flow.

Difficulty: Easy
Ans: insular cortex
Factual
Page 32

2. The _____ is involved in *interoception*, the ability to monitor the body's internal processes.

Difficulty: Easy
Ans: nerve net theory
Factual
Page 33

3. Camillo Golgi advocated _____ .

Difficulty: Easy
Ans: nodes of Ranvier
Factual
Page 34

4. Tiny gaps in the myelin sheath are called _____.

Difficulty: Moderate
Ans: Astrocytes
Factual
Page 36

5. _____ transport essential nutrients from the brain's blood vessels to neurons and maintain a constant chemical environment for them.

Difficulty: Moderate
Ans: cerebellum
Factual
Page 37

6. The _____ contains up to 80% of all the brain's neurons.

Difficulty: Difficult
Ans: dermatome
Factual
Page 39

7. A _____ is a specific area of skin served by a spinal nerve.

Difficulty: Difficult
Ans: globus pallidus
Factual
Page 50

8. The basal ganglia consists of the caudate, the putamen and the _____.

Difficulty: Difficult
Ans: allostatic overload
Factual
Page 56

9. If stress continues for too long, a process known as _____ may occur.

Difficulty: Moderate
Ans: antigens
Factual
Page 58

10. Any substances leading to the production of antibodies are sometimes referred to as _____.

Chapter 2 The Nervous System: Structure and Function

Essay Questions

1. What are the structures of a neuron and what are their functions?
Ans: dendrite, receive messages from other neurons; soma, housing nucleus and maintaining cellular life processes; axon hillock, gateway to axon; axon relays messages to other neurons; terminal branches; makes contact with dendrites of other neurons.
Difficulty: Moderate
Factual
Pages 34, 35

2. What are the different kinds of glial cells and what do they do?
Ans: astrocyte, maintain constant chemical environment for neurons; microglia, resident immune system; oligodendrocyte, myelin in the CNS, Schwann cell, myelin in the PNS.
Difficulty: Moderate
Factual
Pages 36, 37

3. What is the difference between the functions of the sympathetic and parasympathetic nervous systems?
Ans: the sympathetic prepares the organism to expend energy in response to a crisis, fight-or-flight; the parasympathetic prepares the organism to store energy and heal or repair itself, rest-and-digest.
Difficulty: Moderate
Factual
Page 40

4. What was the nature of the disagreement between Camillo Golgi and Santiago Ramón y Cajal?
Ans: Golgi supported nerve net theory, that the nervous system was a physically interconnected system of cells. Cajal supported the neuron doctrine, that all neurons were physically separate cells.
Difficulty: Difficult
Conceptual
Page 33

5. How did MacLean envision the role of the limbic system?
Ans: MacLean used a neuroethological approach, believing its role was to facilitate play behavior, parental behavior, and the cry of infants on separation from their mothers.
Difficulty: Moderate
Conceptual
Pages 50, 51