Chapter 2: The Biological Perspective
Quick Quiz 1

1. Two types of glial cells, called _____ and _____, generate myelin.
a) occipital; lobitical
b) oligodendrocytes; Schwann cells
c) occipital; Schwann
d) oligodendrocytes; lobitical

2. _____neurotransmitters make it more likely that a neuron will send its message to other neurons, whereas _____ neurotransmitters make it less likely that a neuron will send its message.
a) Excitatory; inhibitory
b) Inhibitory; excitatory
c) Augmentation; depletion
d) Depletion; augmentation

3. Which of the following are the three basic types of neurons?
a) reflexes, sensory neurons, motor neurons
b) sensory neurons, motor neurons, stem cells
c) motor neurons, stem cells, reflexes
d) interneurons, sensory neurons, motor neurons

4. As she walks out of the living room, Gloria turns out the light. In this example, Gloria's _____ is active.
a) sympathetic nervous system
b) parasympathetic nervous system
c) autonomic nervous system
d) somatic nervous system

5. Denise just received the results of a complete physical that found her body is not producing enough insulin. Which of the following endocrine glands is affecting her body's ability to produce insulin?
a) The adrenal gland
b) The thymus gland
c) The thyroid gland
d) The pancreas

6. Which of the following is the primary benefit of SPECT over PET?
a) SPECT is a non-invasive neuroimaging technique, while PET is invasive.
b) SPECT offers the benefit of using radioactive tracers that are easier to monitor than PET.
c) SPECT allows monitoring of actual brain activity, while PET does not.
d) SPECT offers monitoring of brain oxygen changes, while PET does not.

7. Which of the following coordinates involuntary rapid fine-motor movement?
a) medulla
b) pons
c) reticular formation
d) cerebellum

8. If you have a problem remembering things that happened a year ago, doctors might check for damage to the _____ area of the brain.
a) hippocampus
b) hypothalamus
c) fornix
d) amygdala

9. _____ are fired when an animal performs an action or when the animal observes that same action being performed. For example, an infant will mimic the facial expressions of adults.
   a) Mirror neurons
   b) Statue neurons
   c) Facial neurons
   d) Observation neurons

10. The area at the back of the temporal lobe that is crucial in the ability to listen, process, and understand what others are saying is _____ area.
   a) Broca's
   b) Gall's
   c) Wernicke's
   d) Korsakoff's

Chapter 2
Quick Quiz 1 Answers

1.	**Answer:** b	**LO:** 2.1	**Page(s):** 44	**Type:** Factual	**Diff:** 3
2.	**Answer:** a	**LO:** 2.2	**Page(s):** 48	**Type:** Conceptual	**Diff:** 2
3.	**Answer:** d	**LO:** 2.3	**Page(s):** 52	**Type:** Factual	**Diff:** 1
4.	**Answer:** d	**LO:** 2.4	**Page(s):** 55	**Type:** Applied	**Diff:** 2
5.	**Answer:** d	**LO:** 2.5	**Page(s):** 58	**Type:** Applied	**Diff:** 3
6.	**Answer:** b	**LO:** 2.6	**Page(s):** 63	**Type:** Conceptual	**Diff:** 2
7.	**Answer:** d	**LO:** 2.7	**Page(s):** 65	**Type:** Factual	**Diff:** 1
8.	**Answer:** a	**LO:** 2.8	**Page(s):** 66	**Type:** Applied	**Diff:** 2
9.	**Answer:** a	**LO:** 2.9	**Page(s):** 70	**Type:** Conceptual	**Diff:** 3
10.	**Answer:** c	**LO:** 2.10	**Page(s):** 71	**Type:** Factual	**Diff:** 1

2 The Biological Perspective

Main Test Bank Questions

Key: Answer, Page, Type, Learning Objective, Level

Type
A=Applied
C=Conceptual
F=Factual
Level
(1)=Easy; (2)=Moderate; (3)=Difficult

LO=Learning Objective
SG=Used in Study Guide
p=page

MULTIPLE CHOICE

An Overview of the Nervous System

Learning Objective 2.1 - What are the nervous system, neurons, and nerves, and how do they relate to one another?

1. The function of the _____ is to carry information to and from all parts of the body.
    a) soma

Incorrect. The primary responsibility of the soma is to maintain the life of the neuron.

    b) synapse
    c) nervous system

Correct. Sending information to and from all parts of the body is the primary function of the nervous system.

    d) endorphins

ANS: c, p. 42, F, LO=2.1, (1)
% correct 91 a= 2 b= 4 c= 91 d=33 *r* = .32
% correct 100 a= 0 b= 0 c= 100 d= 0 *r* = .00

2. The nervous system is defined as _____.
    a) a complex network of cells that carries information to and from all parts of the body

Correct. The nervous system is a complex network of cells that carry information to and from all parts of the body.

    b) a specialized cell that makes up the brain and nervous system
    c) all nerves and neurons that are not contained in the brain and spinal cord but that run throughout the body itself

Incorrect. The nervous system includes networks of neurons that are in the brain and spinal cord.

    d) a gland located in the brain that secretes human growth hormone

ANS: a, p. 42, F, LO=2.1, (1)
% correct 92 a= 92 b= 1 c= 6 d= 1 *r* = .27

Neurons and Nerves: Building the Network

3. The two main divisions of the nervous system are the _____ and _____.
   a) brain; spinal cord
   b) autonomic; somatic nervous systems

Incorrect. The autonomic and somatic nervous systems are divisions of the peripheral nervous system.

   c) peripheral nervous system; central nervous system

Correct. These are the two main divisions of the nervous system.

   d) glands; muscles

ANS: c, p. 42, F, LO=2.1, (1)

4. The branch of life sciences that involves the structure and function of the brain and nervous system, while also focusing on the relationship between learning and behavior, is called _____.
   a) neuroscience

Correct. This is the branch of life sciences that covers these topics.

   b) bioscience

Incorrect. The correct answer is a.

   c) brain scientology
   d) neurostemology

ANS: a, p. 43, F, LO=2.1, (1)

5. A specialized cell that makes up the nervous system and that receives and sends messages within that system is called a _____.
   a) glial cell

Incorrect. Glial cells serve as a structure for neurons.

   b) neuron

Correct. A neuron is a specialized cell that makes up the nervous system and *that receives and sends messages within that system.*

   c) cell body
   d) myelin sheath

ANS: b, p. 43, F, LO=2.1, (1), SG
% correct 96 a= 4 b= 96 c= 0 d= 0 *r* = .19

6. What term is used to describe a specialized cell that makes up the nervous system and receives and sends messages within that system?
   a) neuron

Correct. A neuron is a specialized cell that makes up the nervous system and receives and sends messages within that system.

   b) glial cell

Incorrect. Glial cells serve as a structure for neurons.

   c) myelin sheath
   d) dendritic spine

ANS: a, p. 43, F, LO=2.1, (1)
% correct 96 a= 96 b= 3 c= 1 d= 0 *r* = .25

7. The part of the neuron whose name literally means "branch" is _____.
   a) axon

Incorrect. B is the correct answer.

   b) dendrite

Correct. The word dendrite *comes from the word tree.*

   c) myelin
   d) soma

ANS: b, p. 43, F, LO=2.1, (1)

8. The branchlike structures that receive messages from other neurons are called _____.

a) axons

Incorrect. Axons send but do not receive messages.

b) nerve bundles

c) dendrites

Correct. Dendrites receive messages from other neurons.

d) synapses

ANS: c, p. 43, F, LO=2.1, (1)

% correct 84 a= 10 b= 2 c= 84 d= 4 *r* = .39

% correct 93 a=0 b= 0 c= 93 d= 7 *r* = .19

9. Which part of the neuron is responsible for maintaining the life of the cell?

a) axon

b) soma

Correct. The soma is responsible for maintaining the life of the cell.

c) dendrite

d) cell membrane

Incorrect. The soma is responsible for maintaining the life of the cell.

ANS: b, p. 43, F, LO=2.1, (2)

10. The part of a neuron that contains the nucleus and keeps the entire cell alive and functioning is the _____.

a) axon

b) cell membrane

Incorrect. The soma is responsible for maintaining the life of the cell.

c) dendrite

d) soma

Correct. The soma is responsible for maintaining the life of the cell.

ANS: d, p. 43, F, LO= 2.1, (1)

11. Which part of a neuron is attached to the soma and carries messages out to other cells?

a) soma

b) axon

Correct. The axon carries messages to other cells.

c) dendrite

Incorrect. Dendrites receive messages.

d) cell membrane

ANS: b, p. 43, F, LO= 2.1, (1)

12. The function of the neuron's axon is to _____.

a) carry messages to other cells

Correct. The function of the axon is to carry messages to other cells.

b) regulate the neuron's life processes

c) receive messages from neighboring neurons

Incorrect. Dendrites, not axons, receive messages.

d) insulate against leakage of electrical impulses

ANS: a, p. 43, F, LO=2.1, (2)

% correct 67 a= 67 b= 2 c= 35 6= 53 *r* = .41

13. _____ receive messages from other neurons and _____ send messages to other neurons.

a) Axons; dendrites

Incorrect. Axons send messages, and dendrites receive messages.

b) Axon; soma

c) Soma; glial cells

d) Dendrites; axons

Correct. Dendrites receive messages, and axons send messages to other cells.

ANS: d, p. 43, C, LO=2.1, (2)

% correct 71 a= 23 b= 3 c= 4 d= 71 *r* = .39

14. Dendrite is to axon as:
a) send is to receive.
Incorrect. This is the opposite of the correct answer.
b) send is to regulate.
c) receive is to send.
Correct. Dendrites are treelike parts of the neuron that are designed to receive messages. The axon sends messages to other neurons.
d) receive is to release.
ANS: c, p. 43, C, LO=2.1, (2)

15. Neurons make up _____% of the brain, whereas glial cells make up _____%.
a) 50; 50
b) 25; 75
c) 10; 90
Correct. According to page 43 of the text, neurons make up 10% of the brain, whereas glial cells make up 90%.
d) 5; 95
Incorrect. The correct answer is c.
ANS: c, p. 43, F, LO=2.1, (2)

16. Glial cells make up _____ of the brain's cells.
a) 10 percent
Incorrect. Neurons make up ten percent of the cells in the brain.
b) 70 percent
c) 80 percent
d) 90 percent
Correct. Ninety percent of the brain is composed of glial cells.
ANS: d, p. 43, F, LO=2.1, (3)

17. What are two roles of glial cells?
a) acting as insulation and providing structure to surrounding neurons
Correct. This answer defines two roles of glial cells.
b) shaping cells and moving new neurons into place
Incorrect. Glial cells provide structure and insulation to neurons.
c) regulating metabolic activity and serving as pain detectors
d) monitoring neural transmission and releasing hormones in the brain
ANS: a, pp. 43-44, C, LO=2.1, (3)
% correct 59 a= 59 b= 4 c= 11 d= 22 *r* = .32

18. Two types of glial cells, called _____ and _____, generate myelin.
e) occipital; lobitical
f) oligodendrocytes; Schwann cells
Correct. These are the two types of cells that make up myelin.
g) occipital; Schwann
Incorrect. B is the correct answer.
h) oligodendrocytes; lobitical
ANS: b, p. 44, F, LO=2.1, (3)

19. A cell in the human nervous system whose primary function is to provide insulation and structure for neurons on which they may develop and work is called a(n) _____.
a) epidermal cell
b) adipose cell
c) glial cell
Correct. Glial cells serve as a structure on which neurons develop and work.

d) myelin cell
Incorrect. Myelin cells do not serve as a structure on which neurons develop and work.
ANS: c, p. 44, F, LO=2.1, (2)

20. What is the function of myelin?
a) to serve as a structure for neurons
Incorrect. This is the function of glial cells, not myelin.
b) to monitor neural activity
c) to speed up the neural impulse
Correct. Myelin speeds up the neural impulse.
d) to produce neurotransmitters
ANS: c, p. 44, C, LO=2.1, (2)
% correct 71 a= 14 b= 7 c= 71 d= 9 *r* = .33

21. A fatty substance wrapped around the shaft of axons in the nervous system and whose function is to insulate neurons and speed up the neural impulse is called (a) _____.
a) synaptic vesicle
b) dendrite
c) glial cell
Incorrect. Glial cells do not speed up the neural impulse.
d) myelin
Correct. Myelin speeds up the neural impulse.
ANS: d, p. 44, F, LO=2.1, (2)
% correct 79 a= 7 b= 7 c= 7 d= 79 *r* = .41

22. Which of the following is true about myelin?
a) It's a fatty substance.
Correct. Myelin is made up of fatty tissue called glial cells.
b) It is covered by axons.
Incorrect. Myelin covers axons. It is not covered by axons.
c) It inhibits neural communication.
d) It slows down neuronal operations.
ANS: a, p. 44, F, LO=2.1, (2)

23. One purpose of the _____ is to speed up the neural message traveling down the axon.
a) receptor site
b) axon terminal
Incorrect. The axon terminal does not speed up the neural impulse.
c) myelin
Correct. Myelin speeds up the neural impulse.
d) synaptic vesicle
ANS: c, p. 44, C, LO=2.1, (2)

24. Groups of myelin-coated axons that travel together through the body are called _____.
a) a synaptic vesicle
b) nerves
Correct. Bundles of myelin-coated axons travel together in cables called nerves.
c) neurilemma
Incorrect. Neurilemma enable damaged neurons to repair themselves.
d) a myelinated pathway
ANS: b, p. 44, F, LO=2.1, (1)

25. A nerve is a group of _____ bundled together.
a) axons
Correct. Nerves are bundles of myelin-coated axons.

b) interneurons
c) dendrites
Incorrect. Dendrites are part of the neuron.
d) glial cells
ANS: a, p. 44, F, LO=2.1, (2)

26. The charge that a neuron at rest maintains is due to the presence of a high number of _____ charged ions inside the neuron's membrane.
a) actively
b) passively
c) negatively
Correct. Negatively charged ions inside of the neurons membrane is what gives rise to a negative resting potential.
d) positively
Incorrect. It is during the action potential the positively charged ions flow into the neuron and outnumber the negatively charged ions.
ANS: c, p. 44, C, LO=2.1, (2)

27. The state during which a neuron contains more negatively charged ions inside the cell than outside the cell and is not firing is referred to as the_____.
a) action potential
Incorrect. Action potential is the state a neuron is in when firing.
b) quiet potential
c) synaptic potential
d) resting potential
Correct. Resting potential is the state a neuron is in when a cell is not firing a neural impulse.
ANS: d, p. 45, F, LO=2.1, (2)
% correct 85 a= 4 b= 4 c= 7 d= 85 *r* = .19

28. When a cell is "at rest," it is in a state called the _____.
a) stopping point
b) obcipitation junction
Incorrect. This is a fictitious word.
c) resting potential
Correct. A cell at rest is in a state called the resting potential.
d) action potential
ANS: c, p. 45, C, LO=2.1, (1)

29. What do we call the state of a neuron when it is not firing a neural impulse?
a) action potential
Incorrect. Action potential is the state a neuron is in when firing a neural impulse.
b) resting potential
Correct. Resting potential is the state a neuron is in when not firing a neural impulse.
c) myelination signal
d) transmission impulse
ANS: b, p. 45, F, LO=2.1, (1)
% correct 84 a= 11 b= 84 c= 1 d=4 *r* = .18

30. When the electric potential in a cell is in action versus a resting state, this electrical charge reversal is known as the _____.
a) resting potential
Incorrect. This would be when a cell continues to be at rest.
b) excitation reaction
c) action potential
Correct. This is the state where the electrical charge is reversed.
d) permeable reaction

ANS: c, p. 45, C, LO=2.1, (1)

31. During the action potential, the electrical charge inside the neuron is _____ the electrical charge outside the neuron.

a) positive compared to

Correct. There are more positively charged ions inside the cell than outside.

b) larger than

c) negative compared to

Incorrect. During resting potential, the inside is more negatively charged.

d) smaller than

ANS: a, p. 45, C, LO=2.1, (2)

32. When a neuron fires, it fires in a(n) _____ fashion as there is no such thing as "partial" firing.

a) all-or-none

Correct. This is the term used in the book to describe how neurons fire.

b) rapid fire

c) accidental patterned

d) quick successioned

Incorrect. This is not the term referred to by the book

ANS: a, p. 45, C, LO=2.1 (2)

33. "All or none" is the principle stating that _____.

a) a neuron either fires at full strength or does not fire at all

Correct. A neuron either fires completely or does not fire at all.

b) a neuron either fires in a completely agonist fashion or in a completely antagonist fashion.

c) all the dendrites must be receiving messages telling the neuron to fire or it will not fire at all

d) all somas must be receiving messages telling the neuron to fire or it will not fire at all

Incorrect. A neuron has only one soma, not multiple somas.

ANS: a, p. 45, F, LO=2.1, (2)

% correct 54 a= 54 b= 31 c= 10 d= 5 *r* = .37

% correct 41 a= 41 b= 52 c= 4 d= 3 *r* = .29

34. Your teacher asks you to describe the sequence of parts of a neuron that the impulse travels down during neural conduction. Which of the following sequences will you offer?

a) dendrites, axon, soma, synaptic knob

b) terminal buttons, axon, soma, dendrites

c) axon, soma, dendrites, synaptic knob

Incorrect. The neural impulse begins with the receipt of messages from the dendrites.

d) dendrites, soma, axon, synaptic knob

Correct. This answer describes the correct sequence.

ANS: d, pp. 43-45, C, LO=2.1-2.2, (3)

Learning Objective 2.2 - How do neurons use neurotransmitters to communicate with each other and with the body?

35. The branches at the end of the axon are called _____.

a) axon terminals

Correct. The axon terminals are located at the ends of the axon.

b) synaptic vesicles

Incorrect. Synaptic vesicles are structures within the synaptic knobs.

c) synapses

d) receptor sites

ANS: a, p. 47, F, LO=2.2, (1)

36. What is the term used to describe the branches located at the end of the axon?

a) axon terminals

Correct. The axon terminals are located at the end of the axon.

b) synaptic vesicles

Incorrect. Synaptic vesicles are structures within the synaptic knobs.

c) synapses

d) receptor sites

ANS: a, p. 47, F, LO=2.2, (2)

% correct 59 a= 59 b= 15 c= 3 d= 22 *r* = .48

37. What is the term used to describe the rounded areas on the ends of the axon terminals?

a) synaptic vesicles

Incorrect. Synaptic vesicles are structures within the synaptic knobs.

b) axons

c) dendrites

d) synaptic knobs

Correct. Synaptic knobs are located at the tip of each axon terminal.

ANS: d, p. 47, F, LO=2.2, (2)

38. The saclike structures found inside the synaptic knob containing chemicals are called_____.

a) axon terminals

Incorrect. The axon terminals are limblike structures.

b) synapses

c) synaptic vesicles

Correct. Synaptic vesicles are structures within the synaptic knobs.

d) receptor sites

ANS: c, p. 45, F, LO=2.2, (1)

% correct 69 a= 5 b= 8 c= 69 d= 17 *r* = .53

39. Which of the following are tiny sacs in a synaptic knob that release chemicals into the synapse?

a) synaptic vesicles

Correct. Synaptic vesicles are structures within the synaptic knobs.

b) synaptic nodes

c) terminal buttons

Incorrect. Terminal buttons are the same as synaptic knobs.

d) synaptic gaps

ANS: a, p. 47, F, LO=2.2 (2)

40. A chemical found in the synaptic vesicles which, when released, has an effect on the next cell is called a_____.

a) glial cell

b) neurotransmitter

Correct. Neurotransmitters are stored in the synaptic vesicles.

c) precursor cell

d) synapse

Incorrect. The synapse is the space between the synaptic knob of one cell and the dendrites of the next cell.

ANS: b, p. 47, F, LO=2.2, (1), SG

% correct 74 a= 4 b= 74 c= 4 d= 18 *r* = .34

41. The term *neurotransmitter* refers to _____.

a) a chemical found in the synaptic vesicles that is released into the synapse

Correct. Neurotransmitters are chemicals.

b) any one of a number of chemical compounds that increase the activity of the endocrine system

c) the chemical substance found in the cell membrane

Incorrect. The neurotransmitter is found in the synaptic vesicle.

d) the DNA contained in the nucleus of every neuron

ANS: a, p. 47, F, LO=2.2, (2)

42. The fluid-filled space between the synaptic knob of one cell and the dendrites of the next cell is called the _____.

a) receptor site

Incorrect. Molecules that float across the synapse fit themselves into receptor sites, thus activating the next cell.

b) synapse

Correct. The synapse is the space between the axon of a sending neuron and the dendrites of a receiving neuron.

c) synaptic knob

d) axon terminal

ANS: b, p. 47, F, LO=2.2, (1)

43. _____ are holes in the surface of the dendrites or certain cells of the muscles and glands that are shaped to fit only certain neurotransmitters.

a) Neurotransmitters

b) Axons

c) Synaptic vesicles

Incorrect. Neurotransmitters are stored in the synaptic vesicle.

d) Receptor sites

Correct. Molecules that float across the synapse fit themselves into receptor sites like keys fitting into a lock, thus activating the next cell.

ANS: d, p. 47, F, LO=2.2, (1)

44. Which structure is like a locked door that only certain neurotransmitter keys can unlock?

a) synapses

Incorrect. Synapses are microscopic fluid-filled spaces between neurons.

b) receptor sites

Correct. Only certain neurotransmitters can fit into receptor sites.

c) neural chiasms

d) response terminals

ANS: b, p. 47, C, LO=2.2, (2)

45. The action potential causes neurotransmitters to be released into the _____.

a) myelin sheath

b) axon

c) synapse

Correct. Neurotransmitters are released into the synapse.

d) synaptic vesicle

Incorrect. Neurotransmitters are stored in the synaptic vesicle.

ANS: c, p. 47, F, LO=2.2, (2)

% correct 59 a= 8 b= 11 c= 59 d= 22 *r* = .32

46. _____neurotransmitters make it more likely that a neuron will send its message to other neurons, whereas _____ neurotransmitters make it less likely that a neuron will send its message.

a) Excitatory; inhibitory

Correct. Excitatory neurotransmitters turn cells on and inhibitory ones turn cells off.

b) Inhibitory; excitatory

Incorrect. Inhibitory neurotransmitters turn cells off and excitatory ones turn cells on.

c) Augmentation; depletion

d) Depletion; augmentation
ANS: a, p. 48, C, LO=2.2, (2)
% correct 89 a= 89 b= 8 c= 3 d= 0 *r* = .48

47. Curare, a poison, works by _____.
a) blocking receptor sites and acting as an antagonist for acetylcholine
Correct. This drug acts as an antagonist for acetylcholine.
b) stimulating the release of excessive amounts of acetylcholine
Incorrect. This drug inhibits the release of acetylcholine.
c) stimulating the release of neurotransmitters
d) inhibiting the production of inhibitory neurotransmitters
ANS: a, p. 48, C, LO=2.2, (3)
% correct 30 a= 30 b= 26 c= 20 d= 24 *r* = .23
% correct 41 a= 41 b= 24 c= 22 d= 13 *r* = .22

48. After being bitten by a black widow spider, Jean starts to convulse. This is a result of _____.
a) a lack of GABA being released into her blood stream
Incorrect. The correct answer is d.
b) a resurgence of neurotransmitters overstimulating her brain stem
c) a surge of chemicals blocking the transmission of fluids to the spinal cord
d) a flood of acetylcholine releasing into the body's muscle system
Correct. This is the result of the bite. The result can also include death.
ANS: d, p. 48, A, LO=2.2 (3)

49. _____ plays a critical role as a neurotransmitter that stimulates muscles to contract.
a) Acetylcholine
Correct. Acetylcholine is an excitatory neurotransmitter that stimulates muscles to contract.
b) GABA
Incorrect. GABA is an inhibitory neurotransmitter.
c) Dopamine
d) Endorphin
ANS: a, p. 48, F, LO=2.2, (1)

50. Sara has been experiencing a serious memory problem. An interdisciplinary team has ruled out a range of causes and believes that a neurotransmitter is involved. Which neurotransmitter is most likely involved in this problem?
a) GABA
Incorrect. GABA has a tranquilizing effect.
b) dopamine
c) serotonin
d) acetylcholine
Correct. Acetylcholine is found in a part of the brain responsible for forming new memories.
ANS: d, p. 48, A, LO=2.2, (2), SG
% correct 33 a= 0 b= 26 c=41 d= 33 *r* = .19

51. The poison of the black widow spider works by stimulating the release of excessive amounts of _____.
a) acetylcholine
Correct. The venom stimulates the release of excessive amounts of acetylcholine.
b) dopamine
c) endorphins
Incorrect. The venom works by stimulating the release of excessive amounts of acetylcholine.
d) serotonin
ANS: a, p. 48, F, LO=2.2, (3)

52. Endorphins are _____.
a) found where neurons meet skeletal muscles

b) less powerful than enkaphalins
c) pain-controlling chemicals
Correct. Endorphins are pain-controlling chemicals.
d) radically different in function from neurotransmitters
Incorrect. Endorphins are *neurotransmitters.*
ANS: c, p. 49 F, LO=2.2, (2)
% correct 74 a= 4 b= 7 c= 74 d= 15 *r* = .41

53. Pain-controlling chemicals in the body are called _____.
a) neural regulators
Incorrect. Not all neural regulators are endorphins.
b) histamines
c) androgens
d) endorphins
Correct. Endorphins are pain-controlling chemicals.
ANS: d, p. 49, F, LO=2.2, (1)

54. Because they have similar chemical structures, morphine and other opiates are able to lock into receptor sites for _____.
a) GABA
Incorrect. Opiates are not able to lock into GABA receptor sites.
b) serotonin
c) dopamine
d) endorphins
Correct. Endorphins are natural substances that have the same effect as opiates.
ANS: d, p. 49, F, LO=2.2, (3)

55. Reuptake is_____.
a) a chemical that is released into the synaptic gap
Incorrect. Reuptake is a process.
b) a protein molecule on the dendrite or cell body of a neuron that will interact only with specific neurotransmitters
c) a process by which neurotransmitters are sucked back into the synaptic vesicles
Correct. This is the definition of reuptake.
d) a chemical that plays a role in learning and attention
ANS: c, p. 49, F, LO=2.2, (1)

56. Isabella is putting mustard on her hot dog. She realizes she has put too much and sucks up some of it back into the squeeze bottle. This process is similar to
a) the action potential.
b) receptor site bindings.
c) binding specificity.
Incorrect. Binding specificity refers to the fact that a neuron's receptor sites are designed to receive only one specific neurotransmitter.
d) reuptake.
Correct. Recall take occurs when excess neurotransmitters are reabsorbed into the sending neuron.
ANS: d, p. 49, A, LO=2.2, (3)

57. How is acetylcholine removed from the synapse?
a) It is broken down by an enzyme.
Correct. It is broken down by an enzyme.
b) It is taken back up in the synapse.
Incorrect. It is broken down by an enzyme.
c) It dissipates in the surrounding body fluids.
d) Acetylcholine is one of the few neurotransmitters that is continually present in the synapse.

ANS: a, pp. 49-50, C, LO=2.2, (3)

58. GABA functions as_____.
    a) the major neurotransmitter involved in voluntary movements
    b) an inhibitory neurotransmitter in the brain
Correct. GABA is an inhibitory neurotransmitter.
    c) the neurotransmitter responsible for slowing intestinal activity during stress
    d) the major excitatory neurotransmitter in the brain
Incorrect. GABA is an inhibitory neurotransmitter.
ANS: b, p. 50, F, LO=2.2, (2)

59. Which of the following neurotransmitters functions as a common inhibitory neurotransmitter in the brain?
    a) serotonin
    b) GABA
Correct. GABA is an inhibitory neurotransmitter.
    c) acetylcholine
Incorrect. Acetylcholine is an excitatory neurotransmitter.
    d) norepinephrine
ANS: b, p. 50, F, LO=2.2, (1)

60. Which neurotransmitter is associated with sleep, mood, and appetite?
    a) GABA
Incorrect. GABA is associated with helping calm anxiety.
    b) serotonin
Correct. Serotonin is associated with mood, sleep, and appetite.
    c) dopamine
    d) acetylcholine
ANS: b, p. 50, F, LO=2.2, (1)
% correct 60 a= 6 b= 60 c= 25 d= 8 *r* = .26

61. Andy has decided to seek medical help for mood disturbances and appetite problems. Which neurotransmitter is most likely involved in the problems Andy is experiencing?
    a) GABA
Incorrect. GABA is involved in sleep and inhibits movement but is not associated with mood or appetite.
    b) dopamine
    c) serotonin
Correct. Serotonin is associated with mood and appetite.
    d) acetylcholine
ANS: c, p. 50, A, LO=2.2, (2)

The Central Nervous System – The "Central Processing Unit"

Learning Objective 2.3 - How do the brain and the spinal cord interact?

62. The brain and spinal cord are two components of the_____.
    a) central nervous system
Correct. The brain and spinal cord are two components of the central nervous system.
    b) somatic nervous system
    c) peripheral nervous system
Incorrect. The two components of the peripheral nervous system are the autonomic and somatic nervous systems.
    d) autonomic nervous system
ANS: a, p. 51, F, LO=2.3, (1)
% correct 100 a= 100 b= 0 c= 0 d= 0 *r* = .00

63. The central nervous system consists of _____.

a) the parasympathetic and sympathetic divisions

Incorrect. These are divisions of the autonomic nervous system.

b) the brain and spinal cord

Correct. The brain and spinal cord are the two most basic components of the central nervous system.

c) muscles and glands

d) sense organs and sensory neurons

ANS: b, p. 51, F, LO=2.3, (1)

% correct 77 a= 17 b= 77 c= 0 d= 6 *r* = .24

64. Which part of the nervous system takes the information received from the senses, makes sense out of it, makes decisions, and sends commands out to the muscles and the rest of the body?

a) spinal cord

Incorrect. The spinal cord carries messages to and from the body to the brain.

b) brain

Correct. That is the responsibility of the brain.

c) reflexes

d) interneurons

ANS: b, p. 51, F, LO=2.3, (1), SG

65. The long bundle of neurons that carries messages to and from the body to the brain and is responsible for very fast, lifesaving reflexes is called the _____.

a) spinal cord

Correct. The spinal cord carries messages to and from the body to the brain.

b) brain

Incorrect. The brain receives messages from the spinal cord.

c) reflexes

d) interneurons

ANS: a, p. 51, F, LO=2.3, (1)

66. Which of the following is a long bundle of neurons that functions as a carrier of messages from the body to the brain and from the brain to the body and is responsible for certain reflexes?

a) spinal cord

Correct. The spinal cord carries messages to and from the body to the brain.

b) cerebellum

c) somatic nervous system

Incorrect. The somatic nervous system carries information from the senses to the central nervous system (CNS) and from the CNS to voluntary muscles of the body.

d) amygdala

ANS: a, pp. 51-52, F, LO=2.3, (2)

% correct 77 a= 77 b= 2 c= 19 d= 2 *r* = .29

67. Which of the following are the three basic types of neurons?

a) reflexes, sensory neurons, motor neurons

Incorrect. Reflexes are not a type of neuron.

b) sensory neurons, motor neurons, stem cells

c) motor neurons, stem cells, reflexes

d) interneurons, sensory neurons, motor neurons

Correct. All of these are neurons.

ANS: d, p. 52, F, LO=2.3, (1)

% correct 89 a= 3 b= 7 c= 0 d= 89 *r* = .36

68. Neurons that carry information from the senses to the spinal cord are called _____.

a) motor neurons

b) interneurons

Incorrect. Interneurons connect sensory neurons to the motor neurons.

c) sensory neurons

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

d) reflexes

ANS: c, p. 52, F, LO=2.3, (1)

% correct 75 a= 19 b= 5 c= 75 d= 0 *r* = .32

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

a) motor neurons

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

b) interneurons

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

c) sensory neurons

d) reflexes

ANS: a, p. 52, A, LO=2.3, (3)

% correct 58 a= 58 b= 2 c= 18 d= 521 *r* = .27

70. Neurons found in the center of the spinal cord that receive information from the sensory neurons and send commands to the muscles through the motor neurons are called_____.

a) motor neurons

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

b) interneurons

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

c) sensory neurons

d) reflexes

ANS: b, p. 52, F, LO=2.3, (1)

71. Which of the following are responsible for acting as a facilitator of communication between neurons?

a) motor neurons

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

b) interneurons

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

c) sensory neurons

d) reflexes

ANS: b, p. 52, C, LO=2.3, (3)

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

a) motor neuron

b) interneuron

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

c) sensory neuron

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

d) reflex

ANS: c, p. 52, A, LO=2.3, (2)

% correct 90 a= 5 b= 3 c= 90 d= 1 *r* = .27

73. Cameron touches a hot iron and immediately pulls his hand away. His quick response occurs because_____.

a) the pain message goes up the spinal column to the central area of the spinal cord instead of going all the way to the brain

Correct. Pain messages are spinal reflexes and the response is automatic.

b) the brain has registered that pain is occurring and responds quickly

Incorrect. This type of pain message does not go all the way to the brain.

c) his glands have secreted chemical messengers called hormones

d) neurons in the spinal cord touch end to end to increase response speed
ANS: a, p. 52, A, LO=2.3, (3)

74. Why do many reflexes, such as pulling your hand away from a hot iron, happen so quickly?
a) They involve the neurotransmitter GABA rather than dopamine.
b) The message involved does not have to go all the way to the brain.
Correct. The message goes to the central area of the spinal cord and not up to the brain.
c) The speed of processing is faster in the frontal lobes than in the occipital lobes.
d) The path that reflexes follow to the brain is direct and does not involve any neurotransmitters.
Incorrect. The message involved does not have to go all the way to the brain.
ANS: b, p. 52, A, LO=2.3, (3)
% correct 70 a= 0 b= 70 c= 0 d= 30 *r* = .19

75. Jack suffered a brain injury as a result of hitting his head while waterskiing. One of the problems that developed was that Jack could not pronounce certain words correctly for a long period of time, until he had extensive speech therapy. He can now speak as he did before his accident. This is an example of the brain's _____, which allowed the structure and function of his brain cells to change to adjust to the trauma.
a) adaptology
b) stagnation
c) neuroplasticity
Correct. This allowed Jack's brain to adapt after the trauma.
d) reflex arc
Incorrect. Neuroplasticity accounts for Jack's brain to allow him to speak correctly despite damage.
ANS: c, p. 53, A, LO=2.3, (2)

The Peripheral Nervous System—Nerves on the Edge

Learning Objective 2.4 - How do the somatic and automatic nervous systems allow people and animals to interact with their surroundings and control the body's automatic functions?

76. The peripheral nervous system consists of _____.
a) all the nerve cells that are not in the brain and spinal cord
Correct. The peripheral nervous system consists of all the nerve cells that are not in the brain and spinal cord.
b) all nerves in the brain and the spinal cord
Incorrect. The central nervous system consists of the brain and spinal cord.
c) the spinal cord and autonomic system
d) the brain and the autonomic system
ANS: a, p. 54, F, LO=2.4, (1)

77. The division of the nervous system that allows the brain and the spinal cord to communicate with the sensory systems of the eyes, ears, skin, and mouth, and allows the brain and spinal cord to control the muscles and glands of the body is called the _____.
a) peripheral nervous system
Correct. The peripheral nervous system allows the brain and spinal cord to communicate with the sensory systems and control the muscles and glands.
b) central nervous system
Incorrect. The peripheral nervous system enables the central nervous system, which consists of the brain and spinal cord, to communicate with the sensory systems and control the muscles and glands.
c) endocrine system
d) secondary nervous system
ANS: a, p. 54, F, LO=2.4, (1)
% correct 69 a= 69 b= 22 c= 7 d= 1 *r* = .43

78. The peripheral nervous system consists of the _____ and the _____ nervous systems.
a) autonomic; somatic

Correct. The peripheral nervous system consists of the autonomic and somatic nervous systems.

b) autonomic; sympathetic

c) parasympathetic; somatic

d) parasympathetic; sympathetic

Incorrect. These are the two divisions of the autonomic nervous system.

ANS: a, p. 54, C, LO=2.4, (2)

% correct 53 a= 53 b= 7 c= 5 d= 35 *r* = .33

79. The subdivision of the peripheral nervous system that is made up of all nerves carrying messages from the senses to the central nervous system and all nerves carrying messages from the central nervous system to skeletal muscles is called the _____.

a) autonomic nervous system

Incorrect. The autonomic nervous system consists of nerves that control all of the involuntary muscles, organs, and glands.

b) parasympathetic nervous system

c) somatic nervous system

Correct. This describes the somatic nervous system.

d) central nervous system

ANS: c, p. 54 F, LO=2.4, (1)

80. In the peripheral nervous system, _____ carry messages from special sense receptors in the skin, muscles, and other internal and external sense organs to the spinal cord.

a) autonomic nerves

b) sensory pathway neurons

Correct. Sensory pathway neurons carry messages from sense receptors.

c) motor pathway neurons

Incorrect. Motor pathway neurons travel from the central nervous system to the voluntary muscles.

d) autonomic neurons

ANS: b, p. 54, F, LO=2.4, (1)

81. Vladimir is typing on the computer keyboard. The motion of his fingers on the keys is probably being controlled by_____.

a) the autonomic nervous system

b) sensory pathway neurons

Incorrect. These neurons make up the nerves that come from the sensory organs.

c) motor pathway neurons

Correct. Movements of fingers are associated with motor pathway neurons, which control voluntary muscles.

d) autonomic neurons

ANS: c, pp. 54-55, A, LO=2.4, (3)

82. Every deliberate action you make, such as pedaling a bike, walking, scratching, or smelling a flower, involves neurons in the _____ nervous system.

a) sympathetic

b) somatic

Correct. The somatic nervous system controls voluntary muscle movement.

c) parasympathetic

d) autonomic

Incorrect. The autonomic nervous system consists of nerves that control all of the involuntary muscles, organs, and glands.

ANS: b, pp. 54-55, A, LO=2.4, (2), SG

% correct 50 a= 12 b= 50 c= 12 d= 25 *r* = .23

83. Voluntary muscles are controlled by the _____nervous system.

a) somatic

Correct. The somatic nervous system controls voluntary muscles.

b) autonomic

Incorrect. The autonomic nervous system controls involuntary muscles.

c) sympathetic

d) parasympathetic

ANS: a, p. 55, F, LO=2.4, (1)

84. As she walks out of the living room, Gloria turns out the light. In this example, Gloria's _____ is active.

a) sympathetic nervous system

b) parasympathetic nervous system

c) autonomic nervous system

Incorrect. Turning out the light requires voluntary muscle movement.

d) somatic nervous system

Correct. Turning out the light requires voluntary muscle movement.

ANS: d, p. 55, A, LO=2.4, (2)

% correct 48 a= 8 b= 14 c= 30 d= 48 *r* = .42

85. Involuntary muscles are controlled by the _____ nervous system.

a) somatic

Incorrect. The somatic nervous system controls voluntary muscles.

b) autonomic

Correct. The autonomic nervous system controls involuntary muscles like the heart, stomach, and intestines.

c) sympathetic

d) parasympathetic

ANS: b, p. 55, F, LO=2.4, (1), SG

% correct 64 a= 14 b= 64 c= 14 d= 9 *r* = .27

86. The subdivision of the peripheral nervous system that consists of nerves that control all of the involuntary muscles, organs, and glands is called the _____ nervous system.

a) somatic

Incorrect. The somatic nervous system controls voluntary muscles.

b) autonomic

Correct. The autonomic nervous system controls involuntary muscles and glands.

c) sympathetic

d) parasympathetic

ANS: b, p. 55, F, LO=2.4, (1)

87. When you see someone you have a crush on and your heart pounds, your hands get sweaty, and your cheeks feel hot, your _____ is/are active.

a) skeletal nervous system

b) spinal reflexes

c) autonomic nervous system

Correct. The autonomic nervous system controls involuntary muscles and glands.

d) somatic nervous system

Incorrect. The somatic nervous system controls voluntary muscles.

ANS: c, p. 55, A, LO=2.4, (2)

88. The autonomic nervous system has two divisions called the _____ and the _____.

a) central; peripheral

Incorrect. The two divisions of the autonomic nervous system are the sympathetic and parasympathetic nervous systems.

b) sympathetic; parasympathetic

Correct. These are the divisions of the autonomic nervous system.

c) receptors; effectors

d) limbic; endocrine

ANS: b, p. 55, F, LO=2.4, (1)
% correct 96 a= 4 b= 96 c= 0 d= 0 *r* = .19

89. Which component of the nervous system mobilizes the body in times of stress?
a) central
b) somatic
c) sympathetic
Correct. The sympathetic nervous system mobilizes the body in times of stress.
d) parasympathetic
Incorrect. The parasympathetic nervous system restores the body to normal functioning after arousal.
ANS: c, pp. 55-56, C, LO=2.4, (2)
% correct 60 a= 8 b= 12 c= 60 d= 20 *r* = .37

90. The part of the autonomic nervous system that is responsible for reacting to stressful events and bodily arousal is called the _____ nervous system.
a) central
b) somatic
c) sympathetic
Correct. The sympathetic nervous system is responsible for reacting to stressful events and bodily arousal.
d) parasympathetic
Incorrect. The parasympathetic nervous system restores the body to normal functioning after arousal.
ANS: c, p. 56, F, LO=2.4, (1)

91. As Molly is walking across campus, a car swerves toward her. Her heart races and sweat breaks out as she jumps out of harm's way. This mobilization of energy is due to the action of Molly's _____.
a) somatic nervous system
b) skeletal nervous system
c) parasympathetic nervous system
Incorrect. The parasympathetic nervous system restores the body to normal functioning after arousal.
d) sympathetic nervous system
Correct. The sympathetic nervous system is responsible for reacting to stressful events and bodily arousal.
ANS: d, p. 56, A, LO=2.4, (2)
% correct 73 a= 11 b= 0 c= 16 d= 73 *r* = .48
% correct 81 a= 11 b= 0 c= 9 d= 81 *r* = .51

92. The branch of the autonomic nervous system that restores the body to normal functioning after arousal and is responsible for day-to-day functioning of the organs and glands is called the_____.
a) spinal cord
b) somatic nervous system
c) sympathetic nervous system
Incorrect. The sympathetic nervous system is responsible for reacting to stressful events and bodily arousal.
d) parasympathetic nervous system
Correct. The parasympathetic nervous system restores the body to normal functioning after arousal.
ANS: d, p. 56, F, LO=2.4 (1)

93. Malcolm is studying alone in his room late at night when he hears a loud noise downstairs. His heartbeat increases significantly and his breathing becomes shallow. He wonders if a burglar has entered the house and decides to investigate. When he gets downstairs he discovers his cat has knocked over a plant stand. His body begins to relax and return to normal. Which part of his nervous system is responsible for returning Malcolm to a normal state?
a) spinal cord
b) somatic nervous system
c) sympathetic nervous system
Incorrect. The sympathetic nervous system mobilizes the body in times of stress.
d) parasympathetic nervous system

Correct. The parasympathetic nervous system restores the body to normal functioning after arousal.
ANS: d, p. 56, A, LO=2.4, (2)

Distant Connections: The Endocrine Glands

Learning Objective 2.5 - How do the hormones released by glands interact with the nervous system and affect behavior?

94. Endocrine glands _____.
a) secrete hormones directly into the bloodstream
Correct. Endocrine glands do secrete hormones.
b) are chemicals released into the bloodstream
Incorrect. Glands are not chemicals; they are organs that secrete chemicals.
c) are an extensive network of specialized cells
d) are a thin layer of cells coating the axons
ANS: a, p. 57, F, LO=2.5, (1)
% correct 91 a= 91 b= 5 c= 2 d= 2 *r* = .56

95. Hormones are chemicals that are secreted and go directly into _____.
a) the bloodstream
Correct. Hormones are secreted by endocrine glands and go into the bloodstream.
b) specific organs
c) nerve endings
d) the brain
Incorrect. Hormones go directly into the bloodstream.
ANS: a, pp. 57-58 F LO=2.5, (1)

96. Hormones are_____.
a) the female gonads
b) chemicals released into the bloodstream by the endocrine glands
Correct. This is the definition of hormones.
c) chemicals found in the synaptic vesicles, which when released have an effect on the next cell
Incorrect. This is the definition of neurotransmitters, not hormones.
d) the male gonads
ANS: b, pp. 57-58, F, LO=2.5, (1)

97. Which endocrine gland controls all of the other endocrine glands?
a) The thyroid gland
Incorrect. The thyroid gland does not control other endocrine glands.
b) The adrenal gland
c) The thymus gland
d) The pituitary gland
Correct. The pituitary gland controls all other endocrine glands.
ANS: d, p. 58, F, LO=2.5, (1)

98. The hormone released by the pineal gland that is influential in sleep-wake cycles is _____.
a) melatonin
Correct. The pineal gland secretes melatonin.
b) DHEA
c) parathormone
d) thyroxin
Incorrect. The thyroid secretes thyroxin, which regulates metabolism.
ANS: a, p. 58, F, LO=2.5, (1) SG

99. Tim is overweight. His physician has decided to test him to see if there is a problem with the regulation of his

metabolism. Which endocrine gland will be the focus of diagnostic testing?

a) The adrenal gland

Incorrect. The adrenal glands have nothing to do with metabolism. They secrete hormones that regulate salt intake and stress related hormones.

b) The thymus gland

c) The thyroid gland

Correct. The thyroid gland regulates metabolism.

d) The pancreas

ANS: c, p. 58, A, LO=2.5, (3)

100. Denise just received the results of a complete physical that found her body is not producing enough insulin. Which of the following endocrine glands is affecting her body's ability to produce insulin?

a) The adrenal gland

Incorrect. The adrenal glands have nothing to do with insulin. They secrete hormones that regulate salt intake and stress related hormones.

b) The thymus gland

c) The thyroid gland

d) The pancreas

Correct. The pancreas controls the level of blood sugar in the body.

ANS: d, p. 58, A, LO=2.5, (3)

101. The sex glands, which secrete hormones that regulate sexual development and behavior as well as reproduction, are called_____.

a) the pancreas

b) the gonads

Correct. Gonads are sex glands.

c) cortisol

Incorrect. Cortisol is a hormone that is released when the body experiences stress.

d) the hypothalamus

ANS: b, p. 59, F, LO=2.5, (1)

% correct 87 a= 1 b= 87 c= 3 d= 9 *r* = .50

102. The _____, located on the top of the kidneys, secrete(s) hormones that regulate salt intake, control stress reactions, and provide a secondary source of sex hormones affecting the sexual changes that occur during adolescence.

a) adrenal glands

Correct. The adrenal glands secrete sex hormones and hormones that regulate salt intake.

b) thymus gland

c) thyroid gland

d) gonads

Incorrect. The gonads only secrete sex hormones.

ANS: a, p. 59, F, LO=2.5, (1)

103. Joe is very anxious over an upcoming exam. Consequently, his adrenal glands will probably produce _____.

a) more testosterone

b) less estrogen

Incorrect. Nothing about Joe's circumstances would result in a change in production of estrogen.

c) more cortisol

Correct. Stressful or tense situations cause the HPA axis to produce more cortisol in the adrenal glands.

d) less cortisol

ANS: c, p. 59, A, LO=2.5, (2)

Looking Inside the Living Brain

Learning Objective 2.6 - How do psychologists study the brain and how it works?

104. Insertion into the brain of a thin insulated wire through which an electrical current is sent that destroys the brain cells at the tip of the wire is called _____.

a) deep lesioning

Correct. Deep lesioning destroys brain cells.

b) ESB

Incorrect. ESB stimulates brain cells.

c) EEG

d) CT scanning

ANS: a, p. 60, F, LO=2.6, (1)

105. Sometimes in order to study parts of an animal's brain, researchers may deliberately damage a part of the brain. They accomplish this by placing into the brain a thin insulated wire through which they send an electrical current that destroys the brain cells at the tip of the wire. This technique is called_____.

a) deep lesioning

Correct. Deep lesioning destroys brain cells.

b) ESB

Incorrect. ESB stimulates brain cells.

c) EEG

d) CT scan

ANS: a, p. 60, C, LO=2.6, (2)

106. Insertion into the brain of a thin insulated wire through which an electrical current is sent that stimulates the brain cells at the tip of the wire is called_____.

a) deep lesioning

Incorrect. Deep lesioning destroys brain cells.

b) ESB

Correct. ESB stimulates brain cells.

c) EEG

d) CT scan

ANS: b, p. 60, F, LO=2.6, (1)

107. If Mindy's doctor has taken a series of images of her brain using X-rays, then she likely had a(n) _____.

a) EEG

Incorrect. An electroencephalogram is a graphical representation of the electrical activity in the brain.

b) MRI

c) CT

Correct. CT scans use x-rays to create such images.

d) PET

ANS: c, p. 61, A, LO=2.6, (3)

108. A brain-imaging method that takes computer-controlled X-rays of the brain is called _____.

a) electroencephalography (EEG)

b) magnetic resonance imaging (MRI)

Incorrect. MRI is a brain-imaging method using radio waves and magnetic fields of the body.

c) positron emission tomography (PET)

d) computed tomography (CT)

Correct. CT scans take computer-controlled X-rays of the brain.

ANS: d, p. 61, F, LO=2.6 (1)

109. Ali is in the hospital about to undergo a brain-imaging process that involves taking many X-rays from different angles aided by the use of a computer. What type of imaging technique is being used?

a) electroencephalography (EEG)

b) magnetic resonance imaging (MRI)

Incorrect. MRI is a brain-imaging method using radio waves and magnetic fields of the body.

c) positron-emission tomography (PET)

d) computed tomography (CT)

Correct. CT scans take computer-controlled X-rays of the brain.

ANS: d, p. 61, A, LO=2.6, (2)

% correct 37 a= 18 b= 42 c= 4 d= 37 *r* = .30

110. A brain-imaging method using radio waves and magnetic fields of the body to produce detailed images of the brain is called _____.

a) electroencephalography (EEG)

b) magnetic resonance imaging (MRI)

Correct. MRI is a brain-imaging method using radio waves and magnetic fields of the body.

c) positron emission tomography (PET)

d) computed tomography (CT)

Incorrect. CT scans use X-rays.

ANS: b, pp. 60-61, F, LO=2.6, (1)

% correct 64 a= 19 b= 64 c= 7 d= 10 *r* = .20

111. Rashad is in the hospital and is about to undergo a brain-imaging process that involves placing him inside a magnetic field so that a computer can create three-dimensional images of his brain. What procedure is he about to undergo?

a) electroencephalography (EEG)

b) magnetic resonance imaging (MRI)

Correct. MRI is a brain-imaging method using radio waves and magnetic fields of the body.

c) computed tomography (CT)

Incorrect. CT scans use X-rays.

d) positron emission tomography (PET)

ANS: b, pp. 60-61, A, LO=2.6, (2)

% correct 93 a= 4 b= 93 c= 0 d= 4 *r* = .29

112. A brain-imaging method called _____ takes advantage of the magnetic properties of different atoms to take sharp, three-dimensional images of the brain.

a) electroencephalography (EEG)

b) magnetic resonance imaging (MRI)

Correct. MRI is a brain-imaging method using radio waves and magnetic fields of the body.

c) positron emission magnetography (PEM)

d) computed tomography (CT)

Incorrect. CT scans use X-rays.

ANS: b, pp. 61, C, LO=2.6, (1)

113. Small metal disks are pasted onto Miranda's scalp and connected by wire to a machine that translates the electrical energy from her brain into wavy lines on a moving piece of paper. From this description, it is evident that Miranda's brain is being studied through the use of_____.

a) a CT scan

Incorrect. CT scans take computer-controlled X-rays of the brain.

b) functional magnetic resonance imaging

c) a microelectrode

d) an electroencephalogram (EEG)

Correct. Electroencephalograms record brain wave patterns.

ANS: d, p. 62, A, LO=2.6, (2) SG

114. Which of the following is a machine designed to record the brain wave patterns produced by electrical activity of the surface of the brain?

a) deep lesioning

b) ESB

Incorrect. ESB is insertion of a thin insulated wire into the brain.

c) an electroencephalogram (EEG)

Correct. EEG records brain wave patterns.

d) CT scan

ANS: c, p. 62, F, LO=2.6, (1)

% correct 54 a= 0 b= 11 c= 54 d= 35 *r* = .29

115. Which equipment is used to monitor brain waves?

a) CT scans

Incorrect. A CT scan is a brain-imaging method.

b) functional magnetic resonance imaging (fMRI)

c) microelectrode

d) electroencephalograph (EEG)

Correct. Electroencephalographs monitor brain waves.

ANS: d, p. 62, F, LO=2.6, (1)

% correct 31 a= 27 b= 19 c= 22 d= 31 *r* = .37

116. Which of the following is a brain-imaging method in which radioactive sugar is injected into the subject and a computer compiles a color-coded image of the activity of the brain?

a) electroencephalography (EEG)

b) computed tomography (CT)

c) positron emission tomography (PET)

Correct. PET scan provides a color-coded image of the activity of the brain.

d) functional magnetic resonance imaging (fMRI)

Incorrect. fMRI does not involve radioactive sugar.

ANS: c, p. 63, F, LO=2.6, (1)

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

a) positron emission tomography

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

b) functional magnetic resonance imaging

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

c) microelectrode recording.

d) an electroencephalogram (EEG)

ANS: a, p. 63, A, LO=2.6, (2)

118. Marika needs to have a neuroimaging test that will track the activity of her brain, along with changes in her brain oxygen levels. Which of the following offers an alternative to PET scans, with the advantage of using radioactive tracers that are easier to monitor?

a) electroencephalography (EEG)

b) computed tomography (CT)

c) functional positron emission tomography (fPET)

Incorrect. There is no neuroimaging technique called fPET

d) single photo emission computed tomography (SPECT)

Correct. SPECT offers the stated benefit over PET scans.

ANS: d, p. 63, A, LO=2.6, (2)

% correct 43 a= 31 b= 11 c= 14 d= 43 *r* = .24

119. Which of the following is the primary benefit of SPECT over PET?

a) SPECT is a non-invasive neuroimaging technique, while PET is invasive.

b) SPECT offers the benefit of using radioactive tracers that are easier to monitor than PET.

Correct. SPECT allows the use of tracers that can be more easily tracked than PET scans.

c) SPECT allows monitoring of actual brain activity, while PET does not.

d) SPECT offers monitoring of brain oxygen changes, while PET does not.
Incorrect. Both PET and SPECT can track changes in brain oxygenation levels.
ANS: b, p. 63, C, LO=2.6, (2)

120. A researcher wants to obtain a "movie" of changes in the activity of the brain using images from different time periods. Which of these would be the best choice for this researcher?
a) electroencephalography (EEG)
b) computed tomography (CT)
c) positron emission tomography (PET)
Incorrect. PET provides a color-coded image of the activity of the brain, not moving images of the brain.
d) functional magnetic resonance imaging (fMRI)
Correct. fMRI takes MRI images and combines them into a moving image of the brain.
ANS: d, p. 63 A, LO=2.6, (2)
% correct 40 a= 25 b= 18 c= 15 d= 40 *r* = .20

From the Bottom Up: The Structures of the Brain

Learning Objective 2.7 - What are the different structures of the bottom part of the brain, and what do they do?

121. The _____ is a structure in the brain stem responsible for life-sustaining functions, such as breathing and heart rate.
a) reticular activating system
b) pons
Incorrect. The pons plays a role in sleep, dreaming, left–right body coordination, and arousal.
c) medulla
Correct. The medulla is responsible for life-sustaining functions.
d) cerebellum
ANS: c, p. 64, F, LO=2.7, (1)
% correct 59 a= 3 b= 19 c= 59 d= 18 *r* = .27

122. An auto accident rendered Chris's nervous system unable to send messages for him to breathe, so he is on a respirator. Which brain structure was damaged in the accident?
a) the pons
Incorrect. The pons plays a role in sleep, dreaming, left–right body coordination, and arousal.
b) the medulla
Correct. The medulla is responsible for breathing.
c) the cerebellum
d) the reticular formation
ANS: b, p. 64, A, LO=2.7, (3)
% correct 48 a= 10 b= 48 c= 37 d= 5 *r* = .22

123. The point at which the nerves from the left side of the body cross over into the right side of the brain, and vice versa, is the _____.
a) reticular activating system
b) pons
Incorrect. The pons connects the top of the brain to the bottom.
c) medulla
Correct. This is the point where nerves cross over.
d) cerebellum
ANS: c, p. 64, F, LO=2.7, (2)

124. The _____ is a structure in the brain stem that connects the top of the brain to the bottom and plays a role in sleep, dreaming, left–right body coordination, and arousal.
a) reticular activating system
b) pons

Correct. The pons plays a role in sleep, dreaming, left–right body coordination, and arousal.

c) medulla

Incorrect. The medulla is responsible for life-sustaining functions but does not play a role in sleep, dreaming, and arousal.

d) cerebellum

ANS: b, p. 64, F, LO=2.7, (1)

125. A college student is having difficulty staying awake during the day and sleeping through the night. Her difficulties are MOST likely due to problems in the _____.

a) hippocampus

Incorrect. The hippocampus is responsible for the formation of long-term memory and does not play a role in keeping people awake and alert.

b) pons

Correct. The pons plays a role in sleep, dreaming, and arousal.

c) medulla

d) cerebellum

ANS: b, p. 64, A, LO=2.7, (3)

% correct 44 a= 15 b=44 c= 25 d= 16 *r* = .22

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

a) pons

Correct. The pons have been shown to influence sleep and dreaming as well as arousal.

b) cerebellum

c) cerebral cortex

d) pituitary gland

Incorrect. The correct answer is the pons.

ANS: a, p. 64, A, LO=2.7, (2)

127. The brain is divided into several different structures on the bottom part of the brain, referred to as the "hindbrain." Which of the parts of the brain listed below is NOT located in the hindbrain?

a) medulla

b) pons

c) cerebellum

Incorrect. This part of the brain is in the hindbrain.

d) thalamus

Correct. This part of the brain is in the forebrain.

ANS: d, pp. 64-65, C, LO=2.7, (3)

128. Which of the following is responsible for the ability to selectively attend to certain kinds of information in one's surroundings and become alert to changes?

a) reticular formation

Correct. The reticular formation plays a role in selective attention.

b) pons

Incorrect. The pons plays a role in sleep, dreaming, and arousal but not in selective attention.

c) medulla

d) cerebellum

ANS: a, pp. 64-65, F, LO=2.7, (1)

129. What is the main function of the reticular formation?

a) to control thinking

b) to regulate emotions

c) to control levels of alertness

Correct. The reticular formation controls levels of alertness.

d) to coordinate involuntary rapid fine-motor movements.
Incorrect. This is the role of the cerebellum.
ANS: c, pp. 64-65, F, LO=2.7, (2)
% correct 37 a= 3 b= 30 c= 37 d= 30 *r* = .20

130. Alice is typing her term paper in the computer lab. Although a class is going on just a few feet away, she does not seem to notice. Which part of the brain allows Alice to focus on her typing and ignore the distractions that surround her?
a) reticular formation
Correct. The reticular formation is responsible for selective attention.
b) pons
Incorrect. The pons plays a role in sleep, dreaming, and arousal but not in selective attention.
c) medulla
d) cerebellum
ANS: a, p. 64-65, A, LO=2.7, (2)

131. Katie has grown up sleeping with a fan running in her room since she was an infant. This provides white noise to drown out the television programs being watched by other family members who were still awake. In an effort to save electricity, her mother has started coming into her room and turning her fan off after she thinks Katie is asleep. However, each time Katie wakes up and asks for the fan to be turned back on. Katie is selectively attending to certain kinds of information in her surroundings that have been linked to the _____ part of the brain.
a) reticular formation
Correct. Research has shown that the reticular formation in the brain would be sensitive to this difference in the environment.
b) pons
c) cerebellum
d) medulla
Incorrect. The correct answer is the reticular formation
ANS: a, p. 64-65, A, LO=2.7, (2)

132. The cerebellum _____.
a) controls blood pressure
b) is involved in emotional behavior
c) coordinates involuntary rapid fine-motor movement
Correct. The cerebellum does coordinate involuntary rapid fine-motor movement.
d) relays messages from the sensory receptors
Incorrect. The cerebellum coordinates involuntary rapid fine-motor movement.
ANS: c, p. 65, F, LO=2.7, (2)
% correct 37 a= 8 b=22 c=37 d= 33 *r* = .35

133. Which of the following coordinates involuntary rapid fine-motor movement?
a) medulla
b) pons
c) reticular formation
Incorrect. The reticular formation is not involved in movement.
d) cerebellum
Correct. The cerebellum coordinates involuntary rapid fine-motor movement.
ANS: d, p. 65, F, LO=2.7, (1)

134. Damage to the cerebellum is likely to disrupt which of the following?
a) playing basketball
Correct. The cerebellum coordinates movements that have to happen in rapid succession.
b) sleeping
Incorrect. The pons plays a role in sleep and dreaming, not in movement.
c) homeostasis

d) thinking
ANS: a, p. 65, A, LO=2.7, (3)

135. If your _____ was damaged, you might walk oddly and have trouble standing normally.
a) pons
b) medulla
Incorrect. The tool is responsible for life-sustaining functions like respiration and circulation.
c) cerebellum
Correct. The cerebellum is responsible for balance and fine motor coordination.
d) amygdala
ANS: c, p. 65, A, LO=2.7, (2)

136. Jennifer has been diagnosed with spinocerebellar degeneration. The first stage of the disease involves tremors and unsteady gait. In the later stages, she will be unable to stand, walk, and will be uncoordinated in her movements. This disease affects the _____ part of the brain.
a) hippocampus
b) amygdala
c) cerebellum
Correct. This is the part of the brain affected by this disease.
d) cerebral cortex
Incorrect. This is not the part of the brain that is affected.
ANS: c, p. 65, A, LO=2.7, (2)

137. Tracey has been unable to participate in her gymnastics class and is very uncoordinated since she was involved in an accident where she suffered a head injury. As a result of the accident, she was likely to have suffered damage to her _____.
a) cerebellum
Correct. This part of the brain controls coordination and balance.
b) medulla
c) cerebral cortex
d) hypothalamus
Incorrect. This is not the part of the brain that controls these functions.
ANS: a, p. 65, A, LO=2.7, (2)

Learning Objective 2.8 - What are the structures of the brain that control emotion, learning, memory, and motivation?

138. Which of the following is a group of several brain structures located under the cortex and involved in learning, emotion, memory, and motivation?
a) limbic system
Correct. This structure is involved in learning, memory, emotion, and motivation.
b) cerebellum
c) cerebral cortex
d) cerebrum
Incorrect. The cerebrum consists of the cerebral hemispheres and connecting structures.
ANS: a, p. 65, F, LO=2.8, (1)
% correct 54 a= 54 b= 14 c= 20 d= 12 *r* = .29

139. The structures of the limbic system play an important role in _____ and _____.
a) heart rate; breathing
b) breathing; decision making
c) memory; emotion
Correct. These structures play a role in memory and emotion.
d) spatial tasks; sequential tasks
Incorrect. The limbic system does not play an important role in these tasks.

ANS: c, p. 65, F, LO=2.8, (1)
% correct 58 a= 28 b= 5 c= 58 d= 8 *r* = .30
% correct 44 a= 26 b= 22 c=44 d= 7 *r* = .40

140. What part of the brain acts as a relay station for incoming sensory information?
a) hypothalamus
Incorrect. The hypothalamus regulates sleep, hunger, thirst, and sex.
b) thalamus
Correct. The thalamus acts as a relay station.
c) cerebellum
d) pituitary gland
ANS: b, p. 65, F, LO=2.8, (1)
% correct 48 a= 19 b= 48 c= 25 d= 8 *r* = .53
% correct 48 a= 22 b= 48 c= 22 d= 8 *r* = .48

141. The thalamus is often compared to a(n) _____.
a) triage nurse
Correct. As your authors note, the thalamus is often compared with a triage nurse because it routes sensory information to different parts of the cerebral cortex.
b) fast food menu
Incorrect. There is really nothing about this answer that could be considered correct.
c) stop sign
d) bus stop
ANS: a, p. 66, C, LO=2.8, (2)

142. Jerry loves the smell of the grass after it rains. This is the result of his _____, which have received signals from neurons in his sinus cavity.
a) thalamus
b) olfactory bulbs
Correct. This is the part of the brain that is related to the sense of smell.
c) opticfactory bulbs
d) hippocampus
Incorrect. The correct answer is the olfactory bulbs.
ANS: b, p. 66, C, LO=2.8, (1)

143. Signals from the neurons of which sense are NOT sent to the cortex by the thalamus?
a) hearing
b) smell
Correct. Signals from the neurons responsible for the sense of smell go directly into special parts of the brain called olfactory bulbs, which are the brain structures related to the sense of smell.
c) taste
Incorrect. Signals from the neurons involved in taste are sent to the cortex by the thalamus.
d) vision
ANS: b, p. 66, F, LO=2.8, (2)

144. Which part of the brain is very small but extremely powerful and controls the pituitary gland?
a) hippocampus
b) thalamus
Incorrect. The thalamus acts as a relay station for incoming sensory information.
c) hypothalamus
Correct. The hypothalamus is very small but extremely powerful and controls the pituitary gland.
d) amygdala
ANS: c, p. 66, F, LO=2.8, (2)

145. Eating, drinking, sexual behavior, sleeping, and temperature control are most strongly influenced by the _____.

a) hippocampus

b) thalamus

Incorrect. The thalamus acts as a relay station for incoming sensory information and is not involved in eating, drinking, sexual behavior, sleeping, and temperature control.

c) hypothalamus

Correct. The hypothalamus regulates sleep, hunger, thirst, and sex.

d) amygdala

ANS: c, p. 66, F, LO=2.8, (2) SG

% correct 50 a= 12 b= 24 c= 50 d= 14 *r* = .21

% correct 59 a= 8 b= 11 c= 59 d= 22 *r* = .32

146. Which of the following is a likely effect of damage to the hypothalamus?

a) reduced use of left arm

b) deregulation of hormones

Correct. The hypothalamus regulates the pituitary gland and, therefore, damage can result in the deregulation of hormones.

c) development of aphasia

Incorrect. Damage to Broca's and Wernicke's area plays a role in the development of aphasia.

d) reduced ability to reason

ANS: b, p. 66, C, LO=2.8, (2)

147. The _____ is the part of the brain responsible for the formation of long-term memories.

a) hippocampus

Correct. The hippocampus is responsible for the formation of long-term memories.

b) hypothalamus

Incorrect. The hypothalamus regulates sleep, hunger, thirst, and sex and is not involved in memory.

c) fornix

d) amygdala

ANS: a, p. 66, F, LO=2.8, (1)

% correct 59 a= 59 b= 19 c= 0 d= 22 *r* = .45

148. If you have a problem remembering things that happened a year ago, doctors might check for damage to the _____.

a) hippocampus

Correct. The hippocampus is responsible for the formation of long-term memories.

b) hypothalamus

Incorrect. The hypothalamus regulates sleep, hunger, thirst, and sex, but not memory.

c) fornix

d) amygdala

ANS: a, p. 66, A, LO=2.8, (2)

149. People suffering from Alzheimer's disease have much lower levels of acetylcholine in the _____.

a) hippocampus

Correct. Acetylcholine is involved in the memory function of the hippocampus.

b) hypothalamus

Incorrect. The hypothalamus regulates sleep, hunger, thirst, and sex, but not memory.

c) fornix

d) amygdala

ANS: a, pp. 66-67, F, LO=2.8, (3)

150. Which of the following brain structures is located near the hippocampus and is responsible for fear responses and memory of fear?

a) hippocampus

b) hypothalamus
Incorrect. The hypothalamus regulates sleep, hunger, thirst, and sex, not fear responses.
c) fornix
d) amygdala
Correct. The amygdala is responsible for fear responses and memory of fear.
ANS: d, p. 67, F, LO=2.8, (1)
% correct 37 a= 3 b= 51 c= 8 d= 37 *r* = .29

151. As Joe walks to his car late at night, he hears footsteps behind him. Feeling afraid, Joe grips his keys and quickens his pace. It is likely that Joe's _____ has been activated
a) hypothalamus
Incorrect. The hypothalamus would be responsible for activating the fight or flight system, but only after the amygdala interpreted a fearful or threatening response.
b) hippocampus
c) amygdala
Correct. The amygdala processes the emotions of anger and fear.
d) cerebellum
ANS: c, p. 67, A, LO=2.8, (2)

152. Rats that have a damaged _____will show no fear when placed next to a cat.
a) hippocampus
b) hypothalamus
Incorrect. The hypothalamus regulates sleep, hunger, thirst, and sex, not fear responses.
c) fornix
d) amygdala
Correct. The amygdala is responsible for fear responses and memory of fear.
ANS: d, p. 67, F, LO=2.8, (3)

153. The _____ instantly assesses anger or threat.
a) amygdala
Correct. The amygdala is responsible for fear responses and memory of fear.
b) medulla
c) fornix
Incorrect. The fornix is not involved in fear responses.
d) parietal lobe
ANS: a, p. 67, F, LO=2.8, (2)
% correct 40 a= 40 b= 34 c= 3 d= 3 *r* = .20

154. The _____ is located within the temporal lobe on each side of the brain and if electrically stimulated it may produce dream-like or memory-like experiences.
a) thalamus
b) amygdala
Incorrect. The Hippocampus produces this result.
c) hypothalamus
d) hippocampus
Correct. This part of the brain produces this result.
ANS: d, p. 67, F, LO=2.8, (2)

155. Stan has been extremely afraid of cats since he was scratched as a 5-year-old. Whenever he sees a cat, he remembers the time he was scratched across his face and starts to feel afraid. If a cat comes towards him, he often runs away immediately, as he is afraid of being scratched again. Stan's behaviors and recollection of this trauma are a result of the _____ in the limbic system.
a) hippocampus
b) thalamus
c) amygdala

Correct. This is the part of the brain which controls many fear responses and memories.

d) medulla

Incorrect. The correct answer is the amygdala

ANS: c, p. 67, A, LO=2.8, (3)

156. The outermost part of the brain, which is made up of tightly packed neurons and is only a tenth of an inch thick, is called the _____.

a) amygdala
b) medulla
c) cerebellum

Incorrect. The cerebellum is not the outermost part of the brain.

d) cortex

Correct. The outermost part of the brain is called the cortex.

ANS: d, p. 67, F, LO=2.8, (1)

Learning Objective 2.9 - What parts of the cortex control the different senses and the movement of the body?

157. The cortex is divided into two sections referred to as_____.

a) cerebral hemispheres

Correct. The two sections of the cortex are called cerebral hemispheres.

b) cerebellums

Incorrect. The cerebellum is not a section of the cortex.

c) corpus callosum
d) neurotransmitters

ANS: a, p. 68, F, LO=2.9, (1)

158. The thick band of neurons that connects the right and left cerebral hemispheres is called the _____.

a) cortex

Incorrect. The cortex is the outermost part of the brain.

b) cerebrum
c) corpus callosum

Correct. The corpus callosum connects the right and left cerebral hemispheres.

d) cerebellum

ANS: c, p. 68, F, LO=2.9, (1)
% correct 90 a= 3 b= 1 c= 90 d= 5 *r* = .51
% correct 81 a=0 b= 4 c= 81 d= 15 *r* = .54

159. Which of the following is the section of the brain located at the rear and bottom of each cerebral hemisphere and contains the visual centers of the brain?

a) occipital lobe

Correct. The occipital lobes contain the visual centers of the brain.

b) parietal lobe

Incorrect. The parietal lobe contains the somatosensory cortex, not the visual centers.

c) temporal lobe
d) frontal lobe

ANS: a, p. 68, F, LO=2.9, (1)

160. After a head injury a person reports that she is unable to see, although her eyes are uninjured. A doctor would suspect an injury in the _____ lobe.

a) occipital

Correct. The occipital lobes contain the visual centers of the brain.

b) parietal

Incorrect. The parietal lobes contain the somatosensory cortex, not the visual centers.

c) temporal
d) frontal

ANS: a, p. 68, A, LO=2.9, (3)

161. Which of the following regions contains the primary visual cortex?
a) occipital lobe
Correct. The occipital lobes contain the primary visual cortex.
b) parietal lobe
Incorrect. The parietal lobes contain the somatosensory cortex, not the primary visual cortex.
c) temporal lobe
d) frontal lobe
ANS: a, p. 68, F, LO=2.9, (2)
% correct 82 a= 82 b= 4 c= 14 d= 0 *r* = .47

162. The part of the occipital lobe that is responsible for receiving visual information from the eyes is called the _____.
a) primary visual cortex
Correct. The occipital lobes contain the primary visual cortex.
b) somatosensory cortex
Incorrect. The parietal lobes contain the somatosensory cortex.
c) temporal lobe
d) frontal lobe
ANS: a, p. 68, F, LO=2.9, (1)
% correct 74 a= 74 b= 18 c= 8 d= 3 *r* = .30

163. John has decided to start to learn how to wrestle. His first day at practice, a seasoned wrestler slams the back of his head to the mat. John was shaken and reported to the trainer that he "saw stars" after he hit his head. As evidenced by "seeing stars," John's _____ was temporarily affected as a result of the slam.
a) corpus callosum
b) occipital lobe
Correct. This part of the brain is in the back of the head and controls vision.
c) parietal lobes
Incorrect. This is not correct as the occipital lobe controls vision.
d) somatosensory cortex
ANS: b, p. 68, A, LO=2.9, (3)

164. Suzie Q. was rollerblading when a cat jumped right in front of her causing her to fall. She landed on the back of her head at which point she "saw stars." Which lobe would have been most affected by this fall, given what she saw?
a) frontal
b) temporal
Incorrect. The temporal lobe is not involved in visual processing, so it would not be the best answer to this question.
c) parietal
d) occipital
Correct. If Susie is having an artificial visual experience, it is due to trauma to her occipital lobe.
ANS: d, p. 68, A, LO=2.9, (2)

165. The section of the brain responsible for interpreting the visual information in the primary visual cortex is called the _____.
a) visual association cortex
Correct. This part of the brain is responsible for interpreting visual information.
b) somatosensory cortex
Incorrect. The somatosensory cortex processes information from the skin and internal body receptors for touch, temperature, and body position, not visual information.
c) temporal lobe
d) frontal lobe
ANS: a, p. 68, F, LO=2.9, (1)

166. Damage to the _____would result in an inability to identify and comprehend what is seen through the eyes.
a) visual association cortex
Correct. This part of the brain is responsible for interpreting visual information.
b) primary visual cortex
Incorrect. The primary visual cortex receives visual information from the eyes but does not interpret it.
c) temporal lobe
d) frontal lobe
ANS: a, p. 68, F, LO=2.9, (3)
% correct 20 a= 20 b= 26 c= 36 d= 19 *r* = .30

167. Which of the following regions contains the somatosensory cortex?
a) occipital lobes
Incorrect. This region contains the primary visual cortex.
b) parietal lobes
Correct. The parietal lobes contain the somatosensory cortex.
c) temporal lobes
d) frontal lobes
ANS: b, p. 69, F, LO=2.9, (2)

168. The_____ lobes are located at the top and back of each cerebral hemisphere, containing the centers for touch, body position, and temperature.
a) frontal
b) temporal
Incorrect. The temporal lobes are responsible for the sense of hearing and meaningful speech, not for touch, body position, or temperature.
c) occipital
d) parietal
Correct. The parietal lobes contain the centers for touch, body position, and temperature.
ANS: d, p. 69, F, LO=2.9, (3)

169. Al is trying to decide whether the shower is hot enough to step in, Hal is listening to his MP3 player, and Sal is looking at a beautiful painting in an art museum. Which individual is using his parietal lobe?
a) Al
Correct. The processing of "touch" information like this is handled by the parietal lobe.
b) Hal
Incorrect. Auditory processing is handled by the temporal lobe, not the parietal lobe.
c) Sal
d) Hal and Sal are, but Al is not.
ANS: a, p. 69, A, LO=2.9, (3)

170. Darla was in an automobile accident that resulted in an injury to her brain. Her sense of touch has been affected. Which part of the brain is the most likely site of the damage?
a) frontal lobes
b) temporal lobes
Incorrect. The temporal lobes are responsible for the sense of hearing and meaningful speech, not touch.
c) occipital lobes
d) parietal lobes
Correct. The parietal lobes contain the centers for touch, taste, and temperature.
ANS: d, p. 69, A, LO=2.9, (3) SG

171. Which of the following regions contains the auditory cortex?
a) temporal lobes
Correct. The temporal lobes contain the auditory cortex.
b) parietal lobes

Incorrect. The parietal lobes contain the somatosensory cortex but not the auditory cortex.

c) frontal lobes
d) occipital lobes

ANS: a, p. 69, F, LO=2.9, (2)
% correct 63 a= 63 b=7 c= 22 d= 7 *r* = .44

172. The part of the brain located just behind the temples, containing neurons responsible for the sense of hearing and meaningful speech, is called the _____.

a) temporal lobes

Correct. The temporal lobes are responsible for the sense of hearing and meaningful speech.

b) parietal lobes

Incorrect. The parietal lobes are not involved with hearing or speech.

c) frontal lobes
d) occipital lobes

ANS: a, p. 69, F, LO=2.9, (1)
% correct 72 a= 72 b= 15 c= 8 d= 5 *r* = .51

173. Bobby B. was rollerblading when a cat jumped right in front of him causing him to fall. When he fell, he landed on the side of his head. Shortly afterwards, Bobby complained that he could not understand what people were saying to him. Which lobe would have been most affected by this fall, given what he experienced?

a) frontal
b) temporal

Correct. The comprehension of language is one of the many tasks handled by the temporal lobe.

c) parietal
d) occipital

Incorrect. The occipital lobe is really responsible for visual processing, and does not play any role in the comprehension of language.

ANS: b, p. 69, A, LO=2.9, (3)

174. Which of the following lobes are involved in planning, memory, and personality?

a) temporal lobes

Incorrect. This part of the brain is responsible for the sense of hearing and meaningful speech, not planning, memory, or personality.

b) parietal lobes
c) frontal lobes

Correct. The frontal lobes are involved in planning, memory, and personality.

d) occipital lobes

ANS: c, pp. 69-70, F, LO=2.9, (1)
% correct 70 a= 11 b= 0 c= 70 d= 18 *r* = .30

175. Warren is having trouble deciding what he wants to eat for breakfast. Which lobe of his brain is especially active as he makes his selection?

a) temporal

Incorrect. This part of the brain is responsible for the sense of hearing and meaningful speech.

b) parietal
c) frontal

Correct. The frontal lobes are responsible for decision-making skills.

d) occipital

ANS: c, pp. 69-70, A, LO=2.9, (3)
% correct 64 a= 10 b= 21 c= 64 d= 5 *r* = .42

176. After suffering a brain injury by falling from a ladder, Zack's wife continues to tell the doctor that his personality has changed. He used to be fun loving and care-free, but he is now more critical and yells at his children for seemingly little reason. Zack is likely to have suffered damage to the _____ part of his cortex.

a) occipital lobe

Incorrect. If his vision was affected, this would be accurate.

b) parietal lobes
c) temporal lobes
d) frontal lobes

Correct. The frontal lobes are connected to personality and decision making processes.
ANS: d, pp. 69-70, A, LO=2.9, (3)

177. Marta was in an automobile accident and suffered an injury to her brain resulting in paralysis of her left arm. What part of Marta's brain was injured?

a) auditory association area
b) motor cortex

Correct. The motor cortex is responsible for sending motor commands to the muscles of the somatic nervous system.

c) association areas
d) somatosensory cortex

Incorrect. This area processes information from the skin and internal body receptors for touch, temperature, and body position but is not involved with arm muscles.
ANS: b, p. 70, A, LO=2.9, (3)

178. Messages from the brain to the muscles and glands in the body begin their journey in the _____.

a) auditory association area
b) motor cortex

Correct. Messages from the brain to the muscles and the glands begin their journey in the motor cortex.

c) association areas
d) somatosensory cortex

Incorrect. This area is not involved with muscles and glands.
ANS: b, p. 70, F, LO=2.9, (2)

179. _____ are fired when an animal performs an action or when the animal observes that same action being performed. For example, an infant will mimic the facial expressions of adults.

a) Mirror neurons

Correct. Mirror neurons are fired.

b) Statue neurons
c) Facial neurons
d) Observation neurons

Incorrect. This is a fictitious name for a neuron.
ANS: a, p. 70, C, LO=2.9, (3)
Learning Objective 2.10 - What parts of the cortex are responsible for higher forms of thought, such as language?

180. Incoming sensory messages are made sense of in _____.

a) Broca's area

Incorrect. Broca's area is devoted to the production of speech rather than helping people make sense of incoming sensory input.

b) the motor projection areas
c) the association areas

Correct. The association areas help people make sense of incoming sensory input.

d) Wernicke' s area
ANS: c, p. 70, C, LO=2.10, (1)

181. The area of the frontal lobe that is devoted to the production of fluent speech is _____ area.

a) Broca's

Correct. Broca's area is devoted to the production of fluent speech.

b) Gall's
c) Wernicke's

Incorrect. Wernicke's area is devoted to the production of meaningful language.

d) Korsakoff's

ANS: a, p. 70, F, LO=2.10, (3)
% correct 74 a= 74 b= 3 c= 19 d= 4 *r* = .31
% correct 73 a= 73 b= 3 c= 21 d= 4 *r* = .27

182. Bill was admitted to the hospital last week after he fell. When Bill's son visited, he found his father was unable to get words out in a smooth, connected fashion. If Bill's difficulty speaking is due to brain damage, what is the likely location of the damage?

a) Broca's area

Correct. Broca's area is devoted to the production of fluent speech.

b) Gall's area

c) Wernicke's area

Incorrect. Wernicke's area is devoted to the production of meaningful language.

d) Korsakoff's area

ANS: a, p. 70, A, LO=2.10, (3)

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

a) Broca's

Incorrect. Broca's area is devoted to the production of fluent speech.

b) Gall's

c) Wernicke's

Correct. Wernicke's area is devoted to the production of meaningful language.

d) Korsakoff's

ANS: c, p. 71, F, LO=2.10, (1)
% correct 49 a= 37 b= 8 c= 49 d= 6 *r* = .35

184. Mary suffered a head injury in a car accident last week. Since that time she is able to speak fluently but uses the wrong words when expressing herself. Mary may be exhibiting_____ aphasia.

a) Broca's

Incorrect. Someone with Broca's aphasia has halting speech and mispronounces words but does not use the wrong words.

b) Gall's

c) Wernicke's

Correct. Someone with Wernicke's aphasia often uses the wrong words.

d) Korsakoff's

ANS: c, p. 70, A, LO=2.10, (2)

185. Robert's mother is usually meticulous in her presentation. When picking her up for a family dinner, he noticed that her make-up was only applied to the right side of her face. Her hair was also brushed on the right side, but on the left it was matted and uncombed. He immediately took her to the hospital after she was unaware of any problems. She was diagnosed with _____, which is evidenced by damage to the association areas of the right hemisphere.

a) Wernicke's aphasia

b) Broca's aphasia

Incorrect. If her speech was affected this could be the possible cause.

c) unilateral spatial neglect

Correct. This would be the cause of her attention to the right side of her body and neglecting the left.

d) split-brain

ANS: c, p. 70, A, LO=2.10, (3)

186. Which of the following is the upper part of the brain consisting of two cerebral hemispheres and the structures that connect them?

a) occipital lobe

b) cerebrum

Correct. The cerebrum consists of the two cerebral hemispheres and the structures that connect them.

c) corpus callosum
d) cerebellum

Incorrect. The cerebellum is at the base of the skull, not the upper part of the brain.
ANS: b, p. 71, F, LO=2.10, (1)

Learning Objective 2.11 - How does the left side of the brain differ from the right side?

187. Researcher Roger Sperry won a Nobel prize for his research on epilepsy. Sperry cut through the _____, which joins the two hemispheres of the brain.
a) medulla
b) pons
c) pituitary gland

Incorrect. This part of the brain is not severed in split-brain individuals.
d) corpus callosum

Correct. This part of the brain is severed creating "two brains in one body."
ANS: d, p. 72, F, LO=2.11, (1)

188. Since Norma is a split-brain patient, we can infer that she likely has a history of _____.
a) mental illness
b) severe epilepsy

Correct. One of the very few medical conditions that a split-brain procedure is used to treat is severe epilepsy.
c) anosognosia
d) frontal lobe damage

Incorrect. Split-brain procedures are not used to treat the frontal lobe damage; in fact, he would make no sense at all to use this procedure for this type of medical problem.
ANS: b, p. 72, A, LO=2.11, (1)

189. Pat has decided to undergo surgery to treat her severe epilepsy. Consequently, her doctors will use a surgical procedure during which they will sever her _____.
a) parietal lobe
b) corpus callosum

Correct. The corpus callosum is the thick band of axons that connects the left and right cerebral hemispheres. It is what is severed during a split-brain procedure to treat severe epilepsy.
c) cerebral cortex
d) subcortical structure

Incorrect. In order to treat severe epilepsy, the corpus callosum is cut in a split-brain procedure. This is a last treatment effort and is only done in the most serious cases.
ANS: b, p. 72, A, LO=2.11, (3)

190. If Darren's brain is like that of most people, then language will be handled by his _____.
a) corpus callosum
b) occipital lobe
c) right hemisphere

Incorrect. The right hemisphere does not control language for most people.
d) left hemisphere

Correct. For most people the left hemisphere controls language.
ANS: d, p. 72, A, LO=2.11, (2) SG

191. Which of the following is a function of the right hemisphere?
a) perception, emotional thought, and recognition of patterns

Correct. These are functions of the right hemisphere.
b) sense of time and rhythm
c) speech, handwriting, and calculation
d) language processing in most individuals

Incorrect. This is a function of the left hemisphere.

ANS: a, p. 72, C, LO=2.11, (2)

192. Which is a specific function of the left hemisphere of the brain?
a) visual-spatial perception
b) emotional thought and recognition
c) mathematical calculations
Correct. This is controlled by the left hemisphere.
d) pattern recognition
Incorrect. This is controlled by the right hemisphere of the brain.
ANS: c, p. 72, F, LO=2.11, (1)

Applying Psychology to Everyday Life: Paying Attention to the Causes of Attention-Deficit/Hyperactivity Disorder

193. Addie has recently been diagnosed with attention-deficit/hyperactivity disorder. Her psychiatrist tells her that there are several different brain areas that might contribute to her various symptoms. Which of the following would the psychiatrist be unlikely to name as an involved brain structure?
a) the cerebellum
b) the basal ganglia
c) the striate nucleus
Correct. There is no research implicating this brain structure in ADHD.
d) the corpus callosum
Incorrect. The brain structure that joins the right and left hemispheres has been found to play a role in ADHD.
ANS: c, p. 74, A, LO=2.11, (2)

194. Which of the following cognitive abilities has been found to be normal in people diagnosed with attention-deficit/hyperactivity disorder?
a) some aspects of attention
Correct. Research shows that some aspects of attention are normal in individuals diagnosed with attention-deficit/hyperactivity disorder.
b) vigilance (watching out for something important)
Incorrect. Research shows that individuals diagnosed with attention-deficit/hyperactivity disorder have impaired vigilance.
c) staying on-task
d) engaging in self-control
ANS: a, p. 74, F, LO=2.11, (3)

TRUE OR FALSE

195. One function of the nervous system is to send information to and from all parts of the body.
ANS: T, p. 42, LO=2.1

196. The axon receives messages from other neurons.
ANS: F, p. 43, LO=2.1

197. Glial cells provide structure for neurons.
ANS: T, p. 43, LO=2.1

198. Myelin not only insulates the neuron, it also slows down the neural message, helping with transmission of messages traveling down the axon.
ANS: F, p. 44, LO=2.1

199. Cell membranes are semipermeable.
ANS: T, p. 44, LO=2.1

200. Neurons that are at rest are still electrically charged.
ANS: T, p. 45, LO=2.1

201. During a resting potential, the neuron is positively charged inside and negatively charged outside.
ANS: F, p. 45, LO=2.1

202. A synapse is like a locked door that only certain neurotransmitter keys can unlock.
ANS: F, pp. 46-47, LO=2.2

203. Acetylcholine is an agonist or an excitatory neurotransmitter also found in a part of the brain responsible for forming new memories and stimulating muscle contraction.
ANS: T, pp. 48-49, LO=2.2

204. The central nervous system consists of the brain and spinal cord.
ANS: T, p. 51, LO=2.3

205. Motor neurons carry messages from special receptors in the skin, from muscles, and from sense organs to the spinal cord.
ANS: F, p. 52, LO=2.3

206. Interneurons connect sensory neurons to the motor neurons.
ANS: T, p. 52, LO=2.3

207. Neuroplasticity is the concept that when the brain is injured it is unable to change the structure and function of the cells to adjust to the damage.
ANS: F, p. 53, LO=2.3

208. Stem cells are special cells capable of creating other cells, such as blood cells, nerve cells, and brain cells.
ANS: T, p. 54, LO=2.3

209. The somatic nervous system is made up of nerves carrying messages from the central nervous system to the muscles of the body.
ANS: T, p. 54, LO=2.4

210. Activation of the sympathetic nervous system leads to pupil dilation, inhibition of digestion, and an accelerated heartbeat.
ANS: T, pp. 55-56, LO=2.4

211. Endocrine glands secrete chemicals directly into the body's tissues through ducts.
ANS: F, p. 57, LO=2.5

212. The pineal gland secrets a hormone called insulin.
ANS: F, p. 58, LO=2.5

213. If the pancreas secretes too little insulin, the result is diabetes.
ANS: T, p. 58, LO=2.5

214. If the body secretes too much insulin, the result is hyperglycemia.
ANS: F, p. 59, LO=2.5

215. The thyroid gland secretes a hormone called thyroxin.
ANS: T, p. 58, LO=2.5

216. Positron-emission tomography (PET scan) is a brain-imaging method using radio waves and magnetic fields of the body to produce detailed images of the brain.
ANS: F, p. 63, LO=2.6

217. The medulla is responsible for people's ability to selectively attend to certain kinds of information in their surroundings.
ANS: F, p. 64, LO=2.7

218. The cortex "wrinkles" as a result of fluid filling the brain over the lifespan.
ANS: F, p. 65, LO=2.8

219. The occipital lobes contain the visual cortex, where visual signals are processed.
ANS: T, p. 68, LO=2.9

220. A person who suffered brain damage is likely to have problems controlling his emotions as a result of damage with the connection from the temporal lobe to the limbic system.
ANS: F, pp. 69-70, LO=2.9

221. The cerebrum is divided into two hemispheres that control opposite sides of the body.
ANS: T, pp.71-72, LO=2.11

222. The cerebral cortex is severed in individuals who are considered to have a "split-brain" after a surgery to stop epileptic seizures.
ANS: F, pp. 72, LO=2.11

SHORT ANSWER

223. List the three main parts of the neuron and explain the role each plays in the transmission of neural communication.
pp. 43-44, LO=2.1

224. List two different functions of glial cells.
pp. 43-44, LO=2.1

225. What is a synapse?
p. 47, LO=2.2

226. What are neurotransmitters?
pp. 47-48, LO=2.2

227. Name three neurotransmitters and their functions.
pp. 48-49, LO=2.2

228. Explain the difference between the Central Nervous System (CNS) and the Peripheral Nervous System (PNS).
pp. 51-54, LO=2.3-2.4

229. What is the difference between the sympathetic and parasympathetic nervous systems?
pp. 55-57, LO=2.4

230. Name two hormones that are of particular interest to psychologists and state which gland they are related to and some of the tasks that these hormones perform.
p. 58-69, LO=2.5

231. How does an MRI (magnetic resonance imaging) scan allow the exploration of the brain without the injection of chemicals?
pp. 61-62, LO=2.6

232. Why is the cortex in the brain so wrinkled?
p. 67-68 LO=2.8

233. What are the symptoms of Broca's aphasia?
p. 71, LO=2.10

234. What are the symptoms of Wernicke's aphasia?
p. 71, LO=2.10

235. What are the differences in how the right and left cerebral hemispheres function?
pp. 71-72, LO=2.11

236. Briefly explain Roger Sperry's split-brain research.
pp. 72, LO=2.11

ESSAY

237. What is a neuron? Describe the three parts of a neuron and their functions. Explain the process of how a neural message is transmitted from the end of one neuron to the beginning of another and the process by which a neuron moves from a resting state (resting potential) to firing (action potential) and then back to a resting state.
pp 43-50, LO=2.1-2.2

238. Describe the functions of the brain and the spinal cord. How are these functions similar? How are these functions dissimilar?
pp. 51-52, LO=2.3

239. What are the primary functions of the sympathetic and parasympathetic components of the peripheral nervous system? Describe a situation or experience in which activation of the sympathetic and parasympathetic divisions has occurred.
pp. 55-57, LO=2.4

240. How does the endocrine system influence behavior? Describe the functions of three glands and the hormones each secretes.
pp. 57-59, LO=2.5

241. Choose any three methods that psychologists use to learn about the functions of the brain. Describe the method, how it works, and the type of information we can learn from it.
pp. 60-63, LO=2.6

In-Text Questions

Chapter 2

1. In the structure of the neuron, the _____ sends information to other cells.
a. axon
b. dendrite
c. soma
d. myelin
ANS: a
LO=2.1

2. Which type of cell makes up 10 percent of the brain?
a. glial cells
b. neurons
c. stem cells
d. afferent cells
ANS: b
LO=2.1

3. Damaged nerve fibers in the peripheral nervous system can repair themselves because they are coated with _____, which forms a protective tunnel around the nerve fibers.
a. glial
b. soma
c. myelin
d. neurilemma
ANS: d
LO=2.2

4. When a neuron is in the resting potential state, where are the sodium ions?
a. inside the cell
b. outside the cell
c. inside the soma
d. in the synapse
ANS: b
LO=2.1

5. How does one neuron communicate with another neuron?
a. An electrical spark jumps over the gap between cells.
b. Charged particles leap from one cell to the next.
c. Chemicals in the end of one neuron float across the gap to fit into holes on the next neuron.
d. The end of one neuron extends to touch the other neuron.
ANS: c
LO=2.2

6. Which neurotransmitter is associated with the control of the pain response?
a. acetylcholine
b. GABA
c. serotonin
d. endorphin
ANS: d
LO=2.2

7. Which of the following is the correct path of a reflex arc?
a. efferent neuron to interneuron to afferent neuron
b. efferent neuron to afferent neuron to interneuron
c. afferent neuron to interneuron to efferent neuron
d. afferent neuron to efferent neuron to the brain
ANS: c
LO=2.3

8. Voluntary muscles are controlled by the _____ nervous system.
a. somatic
b. autonomic
c. sympathetic
d. parasympathetic
ANS: a
LO=2.4

9. Your heart races. You begin to breathe faster. Your pupils enlarge and your appetite is gone. Your _____ division has just been activated.
a. sympathetic
b. parasympathetic
c. autonomic
d. somatic
ANS: a
LO=2.4

10. The _____ division controls ordinary, day-to-day bodily functions.
a. sympathetic
b. parasympathetic
c. central
d. somatic
ANS: b
LO=2.4

11. Anya is beautifully proportioned, but at 18 years of age she is still no taller than the average 10-year-old. Anya most likely had a problem in her _____ gland(s) while she was growing up.
a. pituitary
b. adrenal
c. thyroid
d. pineal
ANS: a
LO=2.5

12. The function of hormones in the bloodstream is most similar to which of the following?
a. the function of sodium ions in the action potential
b. the function of myelin surrounding the axons
c. the function of glial cells in the brain
d. the function of neurotransmitters in the synapse
ANS: d
LO=2.4

13. Sleep is influenced by levels of _____, secreted by the _____ gland(s).
a. growth hormone; pituitary
b. insulin; pancreas

c. thyroxin; thyroid
d. melatonin; pineal
ANS: d
LO=2.5

14. Which of the following techniques for imaging the brain would *not* be advisable for a person with a metal spike in his or her head?
a. EEG
b. CT
c. MRI
d. PET
ANS: c
LO=2.6

15. Which technique of studying the brain involves recording the electrical activity of large groups of cortical neurons?
a. EEG
b. deep lesioning
c. ESB
d. MRI
ANS: a
LO=2.6

16. Which technique of studying the brain actually damages neurons?
a. EEG
b. deep lesioning
c. ESB
d. MRI
ANS: b
LO=2.6

17. Maria suffered a stroke that damaged a part of her brain. She fell into a sleeplike coma and could not be awakened. If we know that the area of damage is somewhere in the brain stem, which structure is most likely damaged?
a. medulla
b. pons
c. reticular formation
d. cerebellum
ANS: c
LO=2.7

18. Alexis is learning several new routines in her gymnastics class. After enough practice, her _____ will play an important role in helping her to perform the routines correctly and smoothly.
a. medulla
b. pons
c. reticular formation
d. cerebellum
ANS: b
LO=2.7

19. Which sensory information does NOT have to be first sent to the thalamus before going to the cortex?
a. auditory (hearing)
b. olfactory (smell)
c. gustatory (taste)
d. visual (vision)
ANS: b
LO=2.8

20. Which part of the brain is the primary link to the glandular system?
a. hippocampus
b. thalamus
c. hypothalamus
d. amygdala
ANS: c
LO=2.8

21. Jeff is undergoing brain surgery to remove a tumor. The surgeon applies electrical simulation to various areas around the tumor, causing Jeff to report tingling sensations in various areas of his skin. The tumor is most likely in which lobe of Jeff's brain?
a. frontal
b. temporal
c. occipital
d. parietal
ANS: d
LO=2.9

22. George has a small stroke that results in a partial paralysis of his left side. The damaged area is most likely in his _____ lobe.
a. right frontal
b. left frontal
c. right parietal
d. left temporal
ANS: a
LO=2.9

23. Linda is recovering from damage to her brain. Her main symptom is a speech problem; instead of saying, "I am going to P.T. (physical therapy) at nine o'clock" she says, "I go...P.T....nono'cot." Linda's problem is _____.
a. spatial neglect.
b. visual agnosia.
c. Broca's aphasia.
d. Wernicke's aphasia.
ANS: c
LO=2.10

24. In the split-brain operation, the _____ is severed, which is the primary communication pathway between the two hemispheres.
a. cingulate cortex
b. corpus callosum
c. caudate
d. cerebellum
ANS: b
LO=2.11

25. Recognizing the face of someone you run into at the mall is a function of the _____ hemisphere; being able to retrieve that person's name from memory is a function of the _____ hemisphere.
a. left; right
b. right; left
c. right; right
d. left; left
ANS: b
LO=2.11

General Bank Questions

2: THE BIOLOGICAL PERSPECTIVE

Neurons and Nerves: Building the Network

1. A long structure leaving the cell body that action potential travel along is called the _____.
a. cell membrane
b. dendrite
c. axon
d. myelin sheath
Answer c % correct 70 a= 3 b= 16 c= 70 d= 11 *r* = .38

2. Neurons in the brain that carry messages from one neuron to another and do most of the work of the nervous system are called _____.
a. afferent neurons
b. active neurons
c. efferent neurons
d. interneurons
Answer d % correct 42 a= 25 b= 14 c= 19 d= 42 *r* = .42

3. The short fibers which extend from the neurons allowing it to receive messages from other neurons are
a. axons
b. dendrites
c. nerve bundles
d. synapses
Answer b % correct 79 a= 19 b= 79 c= 1 d= 1 *r* = .38

4. A young man reads in a letter that he has just won $1,000 in a state-wide lottery and he literally jumps for joy. Which neurons are sending messages from his brain to his legs ordering them to jump?
a. sensory neurons
b. motor neurons
c. interaction neurons
d. association neurons
Answer b % correct 89 a= 4 b= 89 c= 2 d= 4 *r* = .34

5. Which of the following neurotransmitters is known for its role in schizophrenia and Parkinson's disease?
a. acetylcholine
b. dopamine
c. serotonin
d. norepinephrine
Answer b % correct 80 a= 11 b= 80 c= 2 d= 7 *r* = .21

6. Endorphins
a. are found where neurons meet skeletal muscles
b. are less powerful than enkaphalins
c. reduce pain messages in the brain
d. are radically different in function from neurotransmitters
Answer c % correct 86 a= 3 b= 3 c= 86 d= 8 *r* = .23

7. The part of the neuron that carries outgoing messages either to another neuron or to a muscle or gland is the

a. myelin sheath
b. axon
c. dendrite
d. cell body
Answer b % correct 80 a= 1 b= 80 c= 19 d= 0 *r* = .21

8. The cell body is enclosed by the
a. axon
b. dendrite
c. cell membrane
d. myelin sheath
Answer c % correct 82 a= 3 b= 3 c= 82 d= 13 *r* = .23

9. Which of the following is true of neural impulses in a single neuron?
a. The neuron may fire during the absolute refractory period.
b. The strength of a neural impulse increases as the strength of the incoming message gets stronger.
c. The strength of a neural impulse decreases as the strength of the incoming message gets stronger.
d. The strength of a neural impulse is the same each time the neuron fires.
Answer d % correct 60 a= 6 b= 30 c= 4 d= 60 *r* = .35

10. The three parts of every neuron are:
a. myelin; glia; cell body.
b. dendrite; cell body; axon.
c. glia; dendrite; axon.
d. myelin; cell body; dendrite.
Answer b % correct 83 a= 1 b= 83 c= 3 d= 13 *r* = .23

11. The neural impulse traveling down the axon is _____; it gets across the synapse by _____.
a. electrical; remaining electrical but changing from positively charged to negatively charged
b. electrical; remaining electrical but changing from negatively charged to positively charged
c. electrical; being changed into a chemical message
d. chemical; being changed into an electrical message
Answer c % correct 50 a= 13 b= 22 c= 50 d= 13 *r* = .37

12. Neurons are:
a. cells in the brain that are believed to help clean and feed brain cells.
b. cells that send and receive information.
c. bundles of nerves.
d. chemical transmitters found in the hypothalamus.
Answer b % correct 96 a= 0 b= 96 c= 3 d= 1 *r* = .44

13. Axons:
a. receive/detect neural impulses.
b. carry messages away from a cell body.
c. secrete chemicals to lubricate the cell body.
d. are found in the cell body.
Answer b % correct 82 a= 15 b= 82 c= 1 d= 3 *r* = .36

14. The myelin sheath:
a. is a fatty substance protecting the dendrites.
b. helps to speed up neural messages within the cell.
c. is found in all neurons.
d. protects the cell's vesicles.
Answer b % correct 51 a= 30 b= 51 c= 5 d= 14 *r* = .44
Answer b % correct 60 a= 25 b= 60 c= 6 d= 8 *r* = .40

15. The basic message-carrying cells of the nervous system are labeled:
a. dendrites.
b. neurons.
c. nerves.
d. ganglia.
Answer b % correct 91 a= 5 b= 91 c= 4 d= 0 *r* = .23

16. What kinds of neurons are connected to receptor cells in the skin, muscles, and joints?
a. peripheral neurons
b. interneurons
c. sensory neurons
d. motor neurons
Answer c % correct 70 a= 3 b= 5 c= 70 d= 22 *r* = .27

17. A nerve impulse from one neuron affects the activity of a neighboring neuron at a point of interaction called the:
a. corpuscle.
b. synapse.
c. transmission cleft.
d. neuronal junction.
Answer b % correct 96 a= 0 b= 96 c= 3 d= 1 *r* = .26

18. Assume that you are testing a split-brain human subject whose language center is in his left hemisphere. If you place a house key into his left hand, he will:
a. not be able to later select the object he was holding from a group of various objects.
b. not be able to tell you what object he is presently holding.
c. immediately be able to tell you what he is holding.
d. be able to tell you what he is presently holding if allowed to think about it for several seconds.
Answer b % correct 80 a= 5 b= 80 c= 6 d= 8 *r* = .24

19. Specialized cells in the brain which send and receive information are called:
a. limbic cells.
b. neurons.
c. ganglia
d. gonads.
Answer b % correct 83 a= 15 b= 83 c= 2 d= 0 *r* = .21

20. Our brain contains nerves and _____.
a. neurons.
b. synapses
c. ganglia
d. all of the above
Answer d % correct 82 d= 8 b= 2 c= 8 d= 82 *r* = .29

21. Our brain contains _____.
a. neurons.
b. synapses
c. ganglia
d. all of the above
Answer d % correct 88 a= 1 b= 9 c= 2 d= 88 *r* = .20

22. Axons
a. may be up to a quarter of a mile long.
b. carry messages away from a cell body.

c. are primarily responsible for the hypothalamic functions of regulation and motivation of sexual functions.
d. are contained within the cell nucleus.
Answer b % correct 89 a= 7 b= 89 c= 1 d= 3 *r* = .33

23. Dendrites:
a. may be up to a quarter of a mile long.
b. carry messages to cell bodies.
c. are primarily responsible for the hypothalamic functions of regulation and motivation of sexual functions.
d. are contained within the cell nucleus.
Answer b % correct 82 a= 10 b= 82 c= 4 d= 4 *r* = .26

24. The myelin sheath:
a. is a special substance protecting the dendrites.
b. helps to speed up transmission of neural messages.
c. is responsible for polarization.
d. all of the above
Answer b % correct 71 a= 7 b= 71 c= 0 d= 22 *r* = .54

25. Neural messages travel faster on axons which
a. are polarized.
b. are not exposed to acetylcholine (ACh).
c. are located in the hypothalamus.
d. have a myelin sheath.
Answer d % correct 88 a= 6 b= 2 c= 5 d= 88 *r* = .35

26. A synapse is most important in:
a. separating the medulla from the hindbrain.
b. regulating the parasympathetic nervous system.
c. the process of transmitting messages between neurons.
d. connecting the basal ganglia.
Answer c % correct 96 a= 2 b= 2 c= 96 d= 0 *r* = .37

27. The smallest unit in the nervous system is the _____.
a. dendrite
b. neuron
c. axon
d. myelin sheath
Answer b % correct 64 a= 21 b= 64 c= 7 d= 8 *r* = .34

28. The cell which underlies the activity of the entire nervous system is the _____.
a. transmitter cell
b. amoeba
c. neuron
d. carcinoma
Answer c % correct 83 a= 16 b= 0 c= 83 d= 1 *r* = .34

29. The short fibers which extend from the neuron allowing it to receive messages from other neurons are _____.
a. axons
b. dendrites
c. nerve bundles
d. cell membranes
Answer b % correct 86 a= 1 b= 1 c= 86 d= 12 *r* = .26

30. The part of the neuron that carries outgoing messages either to another neuron or to a muscle or gland is the _____.
a. myelin sheath
b. axon
c. dendrite
d. cell body
Answer b % correct 81 a= 2 b= 81 c= 18 d= 0 *r* = .20

31. The purpose of the myelin sheath is to _____.
a. provide a place for respiration and metabolism to occur
b. carry messages from the spinal cord to the brain
c. insulate the neuron so it can act more efficiently
d. receive messages from outside the neuron and carry them to the cell nucleus
Answer c % correct 87 a= 0 b= 3 c= 87 d= 10 *r* = .37

32. The tiny space between the axon terminal and the dendrites of another neuron is called the _____.
a. synaptic vesicle
b. synaptic knob
c. synaptic cleft or gap
d. synapse
Answer c % correct 84 a= 8 b= 1 c= 84 d= 6 *r* = .31

33. The entire area composed of the axon terminal of one neuron, the synaptic cleft, and the dendrite, or cell body of the next neuron is called the _____.
a. synaptic vesicle
b. synaptic knob
c. synaptic space
d. synapse
Answer d % correct 80 a= 11 b= 2 c= 6 d= 80 *r* = .22

34. Most axon terminals contain a number of tiny oval sacs called _____.
a. synaptic vesicles
b. synaptic knobs
c. neurotransmitters
d. receptor sites
Answer a % correct 41 a= 41 b= 6 c= 35 d= 15 *r* = .21

35. When a neural impulse reaches the end of an axon, it causes the tiny oval sacs at the end of the axon to release chemicals called _____.
a. effectors
b. neurotransmitters
c. stimulants
d. ions
Answer b % correct 95 a= 3 b= 95 c= 0 d= 2 *r* = .27

36. Which of the following is NOT true of all neurotransmitters?
a. They are chemicals.
b. They are stored in synaptic vesicles.
c. They are released across the synaptic space.
d. They increase the likelihood that the next neuron will fire.
Answer d % correct 70 a= 11 b= 12 c= 7 d= 70 *r* = .31

37. An emergency room physician must quickly treat a patient who has been bitten by a black widow spider. The physician knows she must:
a. prevent the buildup of acetylcholine in the patient's nervous system.

b. prevent the buildup of catecholamines in the patient's nervous system.
c. prevent the breakdown of catecholamines in the patient's nervous system.
d. prevent the reabsorption of acetylcholine in the patient's nervous system.
Answer a % correct 73 a= 73 b= 2 c= 7 d= 18 *r* = .33

38. Axons _____.
a. receive/detect neural impulses
b. carry messages away from a cell body
c. secrete chemicals to lubricate the cell body
d. are found in the cell body
Answer b % correct 80 a= 15 b= 80 c= 1 d= 3 *r* = .30

The Peripheral Nervous System

39. The branch of the autonomic nervous system that prepares the body for quick action in an emergency is the _____ division.
a. central
b. secondary
c. sympathetic
d. parasympathetic
Answer c % correct 73 a= 1 b= 7 c=73 d= 19 *r* = .34

40. The nervous system is comprised of two major parts: _____.
a. the central nervous system and the peripheral nervous system
b. the afferent nervous system and the efferent nervous system
c. the sympathetic nervous system and the parasympathetic nervous system
d. the brain and the spinal cord
Answer a % correct 69 a= 69 b= 2 c= 11 d= 17 *r* = .38

41. The system that relays messages in the form of electrochemical impulses throughout the body is called _____.
a. the arousal system
b. the nervous system
c. the limbic system
d. the endocrine system
Answer b % correct 92 a= 0 b= 92 c= 5 d= 2 *r* = .20

42. The autonomic nervous system has two divisions: _____.
a. central and peripheral
b. receptors and effectors
c. sympathetic and parasympathetic
d. limbic and endocrine
Answer c % correct 79 a= 9 b= 5 c= 79 d= 7 *r* = .36

43. All nerve cells and fibers that are **NOT** in the brain or spinal cord make up the _____ nervous system.
a. central
b. peripheral
c. autonomic
d. sympathetic
Answer b % correct 76 a= 9 b= 76 c= 10 d= 6 *r* = .48

44. Neurons whose primary purpose is to carry messages from the spinal cord or the brain to the muscles and glands are called _____.
a. afferent neurons

b. active neurons
c. efferent neurons
d. interneurons
Answer c % correct 40 a= 27 b= 11 c= 40 d= 22 *r* = .21

45. Neurons whose primary purpose is to collect information from the sensory organs and carry that information to the spinal cord or brain are called _____.
a. afferent neurons
b. active neurons
c. efferent neurons
d. interneurons
Answer a % correct 43 a= 43 b= 14 c= 22 d= 19 *r* = .21

46. The process of digesting your last snack or meal or the unconscious regulation of your breathing are all primarily rooted in the _____ nervous system.
a. autonomic
b. limbic
c. somatic
d. secondary
Answer a % correct 66 a= 66 b= 12 c= 18 d= 4 *r* = .44

47. The branch of the autonomic nervous system that prepares the body for quick action in an emergency is the _____ division.
a. central
b. secondary
c. parasympathetic
d. sympathetic
Answer d % correct 76 a= 1 b= 3 c= 19 d=76 *r* = .38

48. A young woman returns from a day at the beach to find she has developed a severe sunburn. Which neurons are sending the messages from her burned skin to her brain informing her of the pain from the burn?
a. sensory neurons
b. motor neurons
c. synaptic neurons
d. association neurons
Answer a % correct 88 a= 88 b= 2 c= 7 d= 3 *r* = .24

49. The division of the nervous system that connects the brain and spinal cord to the rest of the body is the _____ system.
a. peripheral nervous
b. endocrine
c. central nervous
d. secondary nervous
Answer a % correct 42 a= 42 b= 12 c= 12 d= 4 *r* = .45

50. The deer waits motionlessly, hidden in the thicket as the band of hunters approach. As they get closer, their dogs bark, picking up the scent of their prey. In a futile effort to escape, the deer bolts. Which of the following most accurately describes the nervous system of the hunted deer at this point?
a. Its sympathetic nerve fibers are more active than its parasympathetic nerve fibers.
b. Its parasympathetic nerve fibers are more active than its sympathetic nerve fibers.
c. Both its sympathetic and parasympathetic nerve fibers are equally active.
d. Neither its sympathetic nor its parasympathetic nerve fibers are aroused.
Answer a % correct 77 a= 77 b= 13 c= 10 d= 0 *r* = .37

51. It's midnight, and you are alone in your room studying. You hear a loud crash outside your room, and your whole body reacts instantly and furiously. The system that produces these reactions is the _____ system.
a. central nervous
b. sympathetic nervous
c. parasympathetic nervous
d. limbic
Answer b % correct 80 a= 6 b= 80 c= 12 d= 3 *r* = .52

52. The autonomic and somatic nervous systems are divisions of the _____ system.
a. central
b. parasympathetic
c. peripheral
d. sympathetic
Answer c % correct 63 a= 22 b= 5 c= 63 d= 10 *r* = .28

53. The autonomic nervous system is responsible for:
a. controlling the skeletal muscles.
b. sending sensory input to the brain.
c. making choices and decisions.
d. the activity of internal organs and glands.
Answer d % correct 70 a= 9 b= 11 c= 9 d= 70 *r* = .35

54. The part of the nervous system that allows the brain to regulate digestion, heart rate, and respiration without our conscious attention is the:
a. autonomic nervous system.
b. central nervous system.
c. somatic nervous system.
d. spinal cord.
Answer a % correct 77 a= 77 b= 20 c= 3 d= 0 *r* = .27

55. The nervous system called the "fight or flight" system is the _____ system.
a. central
b. parasympathetic
c. somatic
d. sympathetic
Answer d % correct 74 a= 5 b= 10 c= 10 d= 74 *r* = .45

56. Calm is to aroused as _____ is to _____.
a. parasympathetic; sympathetic
b. autonomic; motor
c. sympathetic; parasympathetic
d. central; peripheral
Answer a % correct 77 a= 77 b= 3 c= 21 d= 0 *r* = .31

57. One evening Betty was walking to the dorm from the gym when she was stopped by two men who demanded her money. Since she was a good athlete, Betty decided to make a run for it. Pretending to open her purse, she suddenly turned and dashed off. Although pursued, Betty outran her assailants. During this incident, which part of Betty's nervous system was most directly responsible for her successful escape?
a. midbrain
b. parasympathetic nervous system
c. forebrain
d. sympathetic nervous system
Answer d % correct 78 a= 2 b= 14 c= 6 d= 78 *r* = .45

58. The autonomic nervous system is divided into two parts. These are termed the _____ nervous systems.

a. ascending and descending
b. frontal and temporal
c. left and right
d. parasympathetic and sympathetic
Answer d % correct 96 a= 2 b= 2 c= 0 d= 96 *r* = .43

59. The parasympathetic and sympathetic divisions make up the:
a. motor cortex.
b. endocrine system.
c. autonomic nervous system.
d. neocortex.
Answer c % correct 97 a= 2 b= 0 c= 97 d= 1 *r* = .31

60. The central nervous system consists of the _____.
a. parasympathetic and sympathetic divisions
b. brain and the spinal cord
c. muscles and glands
d. sense organs and sensory neurons
Answer b % correct 94 a= 4 b= 94 c= 1 d= 1 *r* = .25

61. The two major divisions of the central nervous system are:
a. left and right hemispheres.
b. the brain and autonomic systems.
c. brain and spinal cord.
d. peripheral and autonomic systems.
Answer c % correct 90 a= 3 b= 1 c= 90 d= 6 *r* = .26

62. When the sympathetic nervous system assumes control of the involuntary bodily processes during a stressful situation, which of the following changes is likely to occur?
a. digestion stops
b. less blood is pumped to muscles
c. air passages become smaller
d. sweat glands are less active
Answer a % correct 68 a= 68 b= 12 c= 16 d= 3 *r* = .45

63. Calm is to aroused as _____ is to _____.
a. parasympathetic; sympathetic
b. autonomic; motor
c. sympathetic; parasympathetic
d. central; peripheral
Answer a % correct 66 a= 66 b= 7 c= 23 d= 4 *r* = .54

64. Which of the following most directly controls bodily reflexes?
a. peripheral nervous system
b. brainstem
c. spinal cord
d. hindbrain
Answer c % correct 55 a= 30 b= 4 c= 55 d= 11 *r* = .37

The Central Nervous System

65. Which hemisphere of the cerebral cortex is usually dominant in spatial tasks?
a. the front hemisphere
b. the rear hemisphere

c. the left hemisphere
d. the right hemisphere
Answer d % correct 46 a= 13 b= 14 c= 27 d= 46 *r* = .46

66. The area in the back of the temporal lobe that is important in our ability to listen and in processing and understanding what others are saying is _____.
a. Korsakoff's area
b. Wernicke's area
c. Broca's area
d. Sach's area
Answer b % correct 60 a= 4 b= 60 c= 34 d= 1 *r* = .35

67. The structure in the hindbrain that controls certain reflexes and coordinates the body's movements is the _____.
a. medulla
b. cerebellum
c. pons
d. reticular formation
Answer b % correct 70 a= 13 b= 70 c= 5 d= 12 *r* = .29

68. The part of the brain that receives sensations of touch, balance, bodily position, and oversees spatial abilities is the _____.
a. occipital lobe
b. temporal lobe
c. parietal lobe
d. frontal lobe
Answer c % correct 61 a= 10 b= 15 c= 61 d= 13 *r* = .33

69. The outer surface of the two cerebral hemispheres that regulate most complex behavior is called the _____.
a. cerebellum
b. corpus callosum
c. cerebral cortex
d. substantia nigra
Answer c % correct 74 a= 7 b= 12 c= 74 d= 7 *r* = .44

70. The part of the brain that helps process hearing and give meaning to words is the _____.
a. the occipital lobe
b. the temporal lobe
c. the parietal lobe
d. the frontal lobe
Answer b % correct 72 a= 9 b= 72 c= 12 d= 6 *r* = .37

71. The cerebellum _____.
a. controls blood pressure
b. is involved in emotional behavior
c. coordinates actions so that movements are efficient
d. relays messages from the sensory receptors
Answer c % correct 74 a= 4 b= 12 c= 74 d= 11 *r* = .44

72. Which hemisphere of the cerebral cortex is usually dominant in language tasks?
a. the front hemisphere
b. the rear hemisphere
c. the left hemisphere
d. the right hemisphere

Answer c % correct 70 a= 8 b= 4 c= 70 d= 18 *r* = .38

73. The part of the brain which interprets visual information is the _____.
a. occipital lobe
b. temporal lobe
c. parietal lobe
d. frontal lobe
Answer a % correct 89 a= 89 b= 6 c= 3 d= 2 *r* = .26

74. A young woman recovering from a blow to her head finds she has great difficulty maintaining her balance and coordinating her movements. Injury to which part of her brain is likely to be causing her difficulties?
a. cerebellum
b. medulla
c. cerebral cortex
d. thalamus
Answer a % correct 47 a= 47 b= 18 c= 18 d= 17 *r* = .22
Answer a % correct 72 a= 72 b= 8 c= 18 d= 2 *r* = .37

75. The part of the brain most people think of when they talk about the brain is the _____.
a. cerebral cortex
b. pons
c. medulla
d. cerebellum
Answer a % correct 50 a= 50 b= 3 c= 13 d= 34 *r* = .33

76. The notion that human language production is controlled primarily by the left cerebral cortex was first proposed by _____.
a. Paul Broca
b. Sally Shaywitz
c. Karl Wernicke
d. Hermann Ebbinghaus
Answer a % correct 53 a= 53 b= 3 c=35 d= 7 *r* = .31

77. The part of the hind brain that largely controls breathing, heart rate, and blood pressure is the _____.
a. cerebral cortex
b. pons
c. medulla
d. cerebellum
Answer c % correct 86 a= 3 b= 2 c= 86 d= 9 *r* = .29

78. Garfield is having great difficulty controlling his appetite. All he wants to do is eat and no matter how much he eats he is still hungry. His weight is approaching 400 pounds and he still constantly wants to eat. His physician says the problem is due to a disorder in a specific center of the brain. The brain center is most likely the _____.
a. medulla
b. cerebral cortex
c. thalamus
d. hypothalamus
Answer d % correct 51 a= 0 b= 10 c= 39 d= 51 *r* = .28

79. The site of many mental processes that are unique to humans (self-awareness, initiative, planning ability, and goal-directed behavior) is the _____.
a. occipital lobes
b. temporal lobes
c. parietal lobes

d. frontal lobes
Answer d % correct 68 a= 7 b= 12 c= 13 d= 68 *r* = .57

80. "Split Brain" patients are patients who have had _____.
a. a prefrontal lobotomy
b. their cerebellum split in the middle
c. their corpus callosum cut
d. a fracture skull in which bone fragments penetrated into the brain
Answer c % correct 78 a= 7 b= 16 c= 78 d= 0 *r* = .36

81. Despite its dangers, a young man continues to take cocaine because of the feeling of euphoria it produces for him. This powerful arousal of his nervous system is probably due to cocaine's ability to:
a. inhibit enzymes that break down neurotransmitters.
b. increase the release of neurotransmitters.
c. block the receptor sites for neurotransmitters.
d. prevent neurotransmitters from being reabsorbed into the synaptic vesicles.
Answer d % correct 40 a= 2 b= 22 c= 35 d= 40 *r* = .43

82. Eating, drinking, sexual behavior, temperature control, and sleeping are most strongly influenced by the:
a. medulla.
b. cerebral cortex.
c. thalamus.
d. hypothalamus.
Answer d % correct 55 a= 10 b= 19 c= 15 d= 55 *r* = .40

83. The part of the brain which controls hearing, does some additional processing of visual information, and is probably the site of permanent memory storage is:
a. the occipital lobe.
b. the temporal lobe.
c. the parietal lobe.
d. the frontal lobe.
Answer b % correct 74 a= 8 b= 74 c= 14 d= 3 *r* = .45

84. The structure that connects the two hemispheres of the cerebral cortex is the _____.
a. corpus callosum
b. pineal gland
c. pons
d. reticular formation
Answer a % correct 84 a= 84 b= 0 c= 8 d= 8 *r* = .40

85. A "split brain" patient is asked to stare at a spot on a screen. When a picture of an object is shown to the left of the spot, the patient can _____.
a. identify the object verbally and pick it out of a group of hidden objects using her right hand
b. identify the object verbally and pick it out of a group of hidden objects using her left hand
c. pick the object out of a group of hidden objects using her left hand, but cannot identify it verbally
d. pick the object out of a group of hidden objects using her right hand, but cannot identify it verbally
Answer c % correct 46 a= 17 b= 8 c= 46 d= 29 *r* = .21

86. The limbic system is most closely connected to the _____.
a. hypothalamus
b. endocrine system
c. frontal lobes
d. thalamus
Answer a % correct 24 a= 24 b= 38 c= 29 d= 9 *r* = .42

87. The brain's "relay station" is the _____.
a. hypothalamus
b. medulla
c. pons
d. thalamus
Answer d % correct 72 a= 10 b= 13 c= 4 d= 72 *r* = .51

88. Which of the following is NOT a function of the hypothalamus?
a. regulating eating
b. regulating sleeping
c. relaying sensory inputs to the higher centers in the brain
d. regulating the "restorative" functioning of the autonomic nervous system after an emergency has passed
Answer c % correct 39 a= 6 b= 19 c= 39 d= 36 *r* = .27

89. Which of the following is NOT a function of the hypothalamus?
a. maintaining homeostasis
b. regulating the output of the pituitary
c. controlling the emergency response of the autonomic nervous system
d. coordinating smooth muscle movement
Answer d % correct 45 a= 27 b= 7 c= 21 d= 45 *r* = .24

90. A neuroanatomist destroyed a dog's reticular formation to determine its function. Of the following, which is the most likely result? The dog:
a. could no longer hear.
b. could no longer see.
c. lapsed into a complete and irreversible coma.
d. became hyper alert and no longer slept normally.
Answer c % correct 36 a= 4 b= 21 c= 36 d= 39 *r* = .20

91. If the limbic system were destroyed, which of the following structures would be damaged?
a. cerebellum and corpus callosum
b. cerebellum and amygdala
c. amygdala and hippocampus
d. hippocampus and corpus callosum
Answer c % correct 69 a= 18 b= 8 c= 69 d= 3 *r* = .39

92. The part of our brain that MOST makes us human is the:
a. cerebellum.
b. cerebral cortex.
c. medulla.
d. pons.
Answer b % correct 65 a= 20 b= 65 c= 11 d= 4 *r* = .46

93. Which of the following is NOT a lobe of the brain?
a. corpus callosum
b. frontal
c. occipital
d. parietal
Answer a % correct 99 a= 99 b= 0 c= 0 d= 1 *r* = .15

94. The somatosensory cortex is located in the _____ lobe of the brain.
a. frontal
b. occipital
c. parietal
d. temporal

Answer c % correct 47 a= 32 b= 10 c= 47 d= 11 *r* = .37

95. The motor cortex is located in the _____ lobe of the brain.
a. frontal
b. occipital
c. parietal
d. temporal
Answer a % correct 74 a= 74 b= 6 c= 21 d= 9 *r* = .38

96. A victim of a car wreck with head injuries, whose involuntary bodily processes (breathing, heartbeat, etc.) have been disturbed, probably has had damage done to the _____.
a. hindbrain
b. pons
c. medulla
d. forebrain
Answer c % correct 78 a= 10 b= 6 c= 78 d= 6 *r* = .36

97. Damage to the medulla can seriously impair one's ability to:
a. sing.
b. write.
c. breathe.
d. metabolize food.
Answer c % correct 78 a= 3 b= 11 c= 78 d= 7 *r* = .35

98. Which part of the brain can be thought of as a major switching station that directs incoming information to the correct brain structure?
a. midbrain
b. thalamus
c. cerebellum
d. reticular activating system
Answer b % correct 50 a= 15 b= 50 c= 13 d= 21 *r* = .32

99. The motor impulses/commands associated with the muscular coordination and movements necessary for one to write originate in which lobe of the cerebral cortex?
a. temporal
b. parietal
c. occipital
d. frontal
Answer d % correct 55 a= 10 b= 33 c= 2 d= 55 *r* = .30

100. A brain tumor's growth has caused Dick's vision to suffer. Which lobe of the brain is being affected by the tumor's growth?
a. frontal
b. occipital
c. parietal
d. temporal
Answer b % correct 91 a= 2 b= 91 c= 4 d= 3 *r* = .23

101. The bundle of nerves that connects the two hemispheres of the brain is called the:
a. basal ganglia.
b. longitudinal fissure.
c. corpus callosum
d. somatosensory cortex
Answer c % correct 84 a= 7 b= 10 c= 84 d= 0 *r* = .40

102. After removal of a tumor from the LEFT side of her brain, Sharon recovered well. However, some of her former abilities are now limited. Which of the following abilities are most likely affected?
a. coordinated walking movements
b. solving algebra equations
c. assembling puzzles
d. recognizing objects that she sees
Answer b % correct 68 a= 14 b= 68 c= 10 d= 8 *r* = .28

103. The two major divisions of the central nervous system are:
a. left and right hemispheres.
b. the brain and autonomic systems.
c. brain and spinal cord.
d. peripheral and autonomic systems.
Answer c % correct 70 a= 2 b= 2 c= 70 d= 26 *r* = .20

104. The brain is part of the:
a. nervous system.
b. endocrine system.
c. thalamic system.
d. cranial system.
Answer a % correct 92 a= 92 b= 3 c= 2 d= 3 *r* = .44

105. The brain:
a. is an integrated system within itself.
b. controls the endocrine system.
c. is part of the nervous system.
d. All of the above.
Answer d % correct 95 a= 1 b= 1 c= 4 d= 95 *r* = .20

106. The part of the brain which controls breathing, heartbeat, and posture is the
a. pituitary gland.
b. neocortex.
c. hypothalamus.
d. medulla.
Answer d % correct 82 a= 0 b= 0 c= 18 d= 82 *r* = .41

107. If you are shot in the head and there is damage to the medulla this can seriously impair your ability to
a. sing.
b. write.
c. breathe.
d. urinate.
Answer c % correct 87 a= 2 b= 8 c= 87 d= 3 *r* = .31

108. The medulla, pons, and cerebellum are all part of the:
a. midbrain.
b. hindbrain.
c. spinal cord.
d. forebrain.
Answer b % correct 89 a= 4 b= 89 c= 5 d= 2 *r* = .47

109. The hypothalamus does NOT control:
a. bowel movements.
b. sweating.
c. reactions to pain.
d. fine motor coordination.

Answer d % correct 59 a= 21 b= 7 c= 14 d= 59 *r* = .22

110. The corpus callosum:
a. is an integral area of the hindbrain.
b. is responsible for taste and smell sensations.
c. connects the left and right cerebral hemispheres.
d. supports the reticular activating system.
Answer c % correct 90 a= 3 b= 3 c= 90 d= 4 *r* = .39

111. The left and right cerebral hemispheres are connected by the:
a. occipital lobe.
b. pons.
c. sylvian fissure.
d. corpus callosum.
Answer d % correct 95 a= 1 b= 2 c= 3 d= 95 *r* = .38

112. The left cerebral hemisphere primarily controls:
a. the right side of the body.
b. the left side of the body.
c. all motor functions.
d. spatial reasoning.
Answer a % correct 91 a= 91 b= 2 c= 4 d= 3 *r* = .35

113. The right cerebral hemisphere primarily controls:
a. the right side of the body.
b. the left side of the body.
c. speech and language.
d. a and c.
Answer b % correct 93 a= 2 b= 93 c= 3 d= 2 *r* = .28

114. Individuals who have had their corpus callosum cut are said to have a:
a. split brain
b. disintegrating personality
c. cranial refraction
d. migraine headache
Answer a % correct 96 a= 96 b= 2 c= 2 d= 0 *r* = .35

115. An individual with a "split brain":
a. will most likely die.
b. will probably become schizophrenic.
c. will probably develop a split personality.
d. none of the above
Answer d % correct 84 a= 3 b= 3 c= 10 d= 84 *r* = .21

116. The brain is connected to the rest of the body via the:
a. corpus callosum.
b. spinal cord.
c. limbic system.
d. cranial nerve.
Answer b % correct 96 a= 0 b= 96 c= 2 d= 2 *r* = .21

117. The spinal cord:
a. connects the brain to the rest of the body.
b. is composed of nerve tissue.
c. can work independently of the brain.

d. all of the above
Answer d % correct 80 a= 15 b= 4 c= 1 d= 80 *r* = .28

118. The part of the hindbrain that controls such things as breathing, heart rate, and blood pressure is the _____.
a. cerebral cortex
b. pons
c. medulla
d. cerebellum
Answer c % correct 60 a= 3 b= 17 c= 60 d= 20 *r* = .22

119. The cerebellum _____.
a. controls blood pressure
b. is involved in emotional behavior
c. coordinates actions so that movements are efficient
d. relays messages from the sensory receptors
Answer c % correct 84 a= 3 b= 5 c= 84 d= 8 *r* = .40

120. The structure in the center of the forebrain that relays sensory information is called the _____.
a. medulla
b. hypothalamus
c. pons
d. thalamus
Answer d % correct 63 a= 10 b= 12 c= 15 d= 63 *r* = .41

121. Eating, drinking, sexual behavior, temperature control, and sleeping are strongly influenced by the _____.
a. medulla
b. cerebral cortex
c. thalamus
d. hypothalamus
Answer d % correct 71 a= 3 b= 5 c= 21 d= 71 *r* = .29

122. Garcia is having great difficulty controlling his appetite. All he wants to do is eat and no matter how much he eats, he is still hungry. His weight is approaching 400 pounds and he still constantly wants to eat. His physician says the problem is due to a disorder in a specific center of the brain. That brain center is most likely the _____.
a. medulla
b. cerebral cortex
c. thalamus
d. hypothalamus
Answer d % correct 60 a= 15 b= 8 c= 17 d= 60 *r* = .44

123. The part of the brain which controls hearing, does some additional processing of visual information, and is probably the site of permanent memory storage is _____.
a. the occipital lobe
b. the temporal lobe
c. the parietal lobe
d. the frontal lobe
Answer b % correct 64 a= 15 b= 64 c= 11 d= 10 *r* = .37

124. The part of the brain that receives sensations of touch, balance, and bodily position is the _____.
a. occipital lobe
b. temporal lobe
c. parietal lobe

d. frontal lobe
Answer c % correct 62 a= 9 b= 14 c= 62 d= 15 *r* = .51

125. Corey was in an automobile accident that resulted in an injury to her brain. She now has difficulty maintaining her balance and normal body positions. Her sense of touch has also been injured. The part of her brain most likely injured was her _____.
a. occipital lobe
b. temporal lobe
c. parietal lobe
d. frontal lobe
Answer c % correct 66 a= 4 b= 13 c= 66 d= 16 *r* = .34

126. Corey was in an automobile accident that resulted in an injury to her brain. She now has difficulty with her hearing and her memory. The part of her brain most likely injured was her _____.
a. occipital lobe
b. temporal lobe
c. parietal lobe
d. frontal lobe
Answer b % correct 68 a= 10 b= 68 c= 11 d= 10 *r* = .34

127. The structure that connects the two hemispheres of the cerebral cortex is the _____.
a. corpus callosum
b. pineal gland
c. pons
d. reticular formation
Answer a % correct 99 a= 99 b= 0 c= 1 d= 0 *r* = .02

128. Which hemisphere of the cerebral cortex is dominant in language tasks?
a. front
b. rear
c. left
d. right
Answer c % correct 66 a= 18 b= 3 c= 66 d= 13 *r* = .38

129. Which hemisphere of the cerebral cortex is dominant in spatial tasks and concept formation?
a. front
b. rear
c. left
d. right
Answer d % correct 62 a= 17 b= 6 c= 16 d= 62 *r* = .29

130. A "split brain" patient is a patient who has had _____.
a. a prefrontal lobotomy
b. their cerebellum split in the middle
c. their corpus callosum cut
d. a fractured skull in which bone fragments penetrated into the brain
Answer c % correct 90 a= 2 b= 8 c= 90 d= 0 *r* = .38

131. A victim of a car wreck with head injuries, whose involuntary bodily processes (breathing, heartbeat, etc.) have been disturbed, probably has had damage done to the _____.
a. hindbrain
b. pons
c. medulla
d. forebrain
Answer c % correct 81 a= 9 b= 1 c= 81 d= 9 *r* = .34

132. A brain tumor's growth has caused Dick's vision to suffer. Which lobe of the brain is being affected by the tumor's growth?
a. frontal
b. occipital
c. parietal
d. temporal
Answer b % correct 92 a= 5 b= 92 c= 3 d= 1 *r* = .21

133. The bundle of nerves that connects the two hemispheres of the brain is called the _____.
a. basal ganglia
b. longitudinal fissure
c. corpus callosum
d. somatosensory cortex
Answer c % correct 88 a= 6 b= 3 c= 88 d= 3 *r* = .38

134. Which part of the brain can be thought of as a major switching station that directs incoming information to the correct brain structure?
a. midbrain
b. thalamus
c. cerebellum
d. reticular activating system
Answer b % correct 54 a= 6 b= 54 c= 17 d= 23 *r* = .28

135. The brain is connected to the other parts of the nervous system by the _____.
a. spinal cord
b. corpus callosum
c. brainstem
d. peripheral nervous system
Answer a % correct 58 a= 58 b= 2 c= 37 d= 3 *r* = .33

136. The _____ looks like two wrinkled hemispheres.
a. cerebellum
b. cerebrum
c. forebrain
d. all of the above
Answer b % correct 35 a= 29 b= 35 c= 5 d= 31 *r* = .27

The Chemical Connection

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137. The glands that secrete hormones directly into the bloodstream are called _____.
a. lymph glands
b. exocrine glands
c. hippocampal glands
d. endocrine glands
Answer d % correct 77 a= 6 b= 10 c= 7 d= 77 *r* = .31
Answer d % correct 93 a= 3 b= 4 c= 0 d= 93 *r* = .28

138. Endocrine glands are glands that secrete _____.
a. excitory neurotransmitters
b. inhibitory neurotransmitters
c. hormones
d. enzymes
Answer c % correct 73 a= 12 b= 5 c= 73 d= 10 *r* = .25

139. Chemical substances released by the endocrine glands to help regulate bodily functions are _____.
a. enzymes
b. neurotransmitters
c. antigens
d. hormones
Answer d % correct 63 a= 14 b= 18 c= 4 d= 63 *r* = .51

140. The pea-sized gland that is stimulated by light and helps regulate activity levels over the course of a day is the:
a. adrenal
b. pituitary
c. pineal
d. thyroid
Answer c % correct 61 a= 13 b= 22 c= 61 d= 5 *r* = .43

141. The pituitary gland is controlled by the:
a. brainstem.
b. hypothalamus.
c. reticular formation.
d. spinal cord.
Answer b % correct 73 a= 10 b= 73 c= 11 d= 5 *r* = .37

142. The thyroid and pituitary glands are parts of the _____ system.
a. gonad
b. endocrine
c. steroid
d. lymphatic
Answer b % correct 84 a= 1 b= 84 c= 0 d= 15 *r* = .35

143. Hank has been overweight since childhood. He diets frequently and can lose weight but always seems to gain it back, because he is unable to control his eating. Hank may have a problem with his:
a. catecholamine level.
b. thyroid gland.
c. pituitary gland.
d. limbic system.
Answer b % correct 87 a= 4 b= 87 c= 4 d= 3 *r* = .22

144. The endocrine system is made up of:
a. special centers which control our language functions.
b. neurons which transmit electrically charged messages.
c. glands which release hormones into the bloodstream.
d. none of the above
Answer c % correct 95 a= 0 b= 3 c= 95 d= 2 *r* = .21
145. The _____ system is made up of glands which release hormones into the bloodstream.
a. motor
b. endocrine
c. limbic
d. autonomic
Answer b % correct 81 a= 2 b= 81 c= 11 d= 6 *r* = .38

146. The thyroid and pituitary glands are part of our _____ system.
a. motor
b. glandular
c. limbic
d. endocrine

Answer d % correct 81 a= 0 b= 8 c= 11 d= 81 *r* = .35

147. Which of the following is NOT a part of the endocrine system?
a. thyroid
b. pons
c. pituitary
d. pancreas
Answer b % correct 88 a= 0 b= 88 c= 0 d= 12 *r* = .33

148. The limbic system is responsible for _____.
a. filtering incoming messages to the brain
b. connecting the brain to most of the rest of the body
c. fighting disease organisms that attempt to infect the brain
d. controlling learning and emotional behavior
Answer d % correct 60 a= 25 b= 11 c= 4 d= 60 *r* = .27

149. The _____ gland produces the hormone which regulates the body's rate of metabolism.
a. pituitary
b. adrenal
c. thyroid
d. parathyroid
Answer c % correct 55 a= 34 b= 10 c= 55 d= 1 *r* = .22