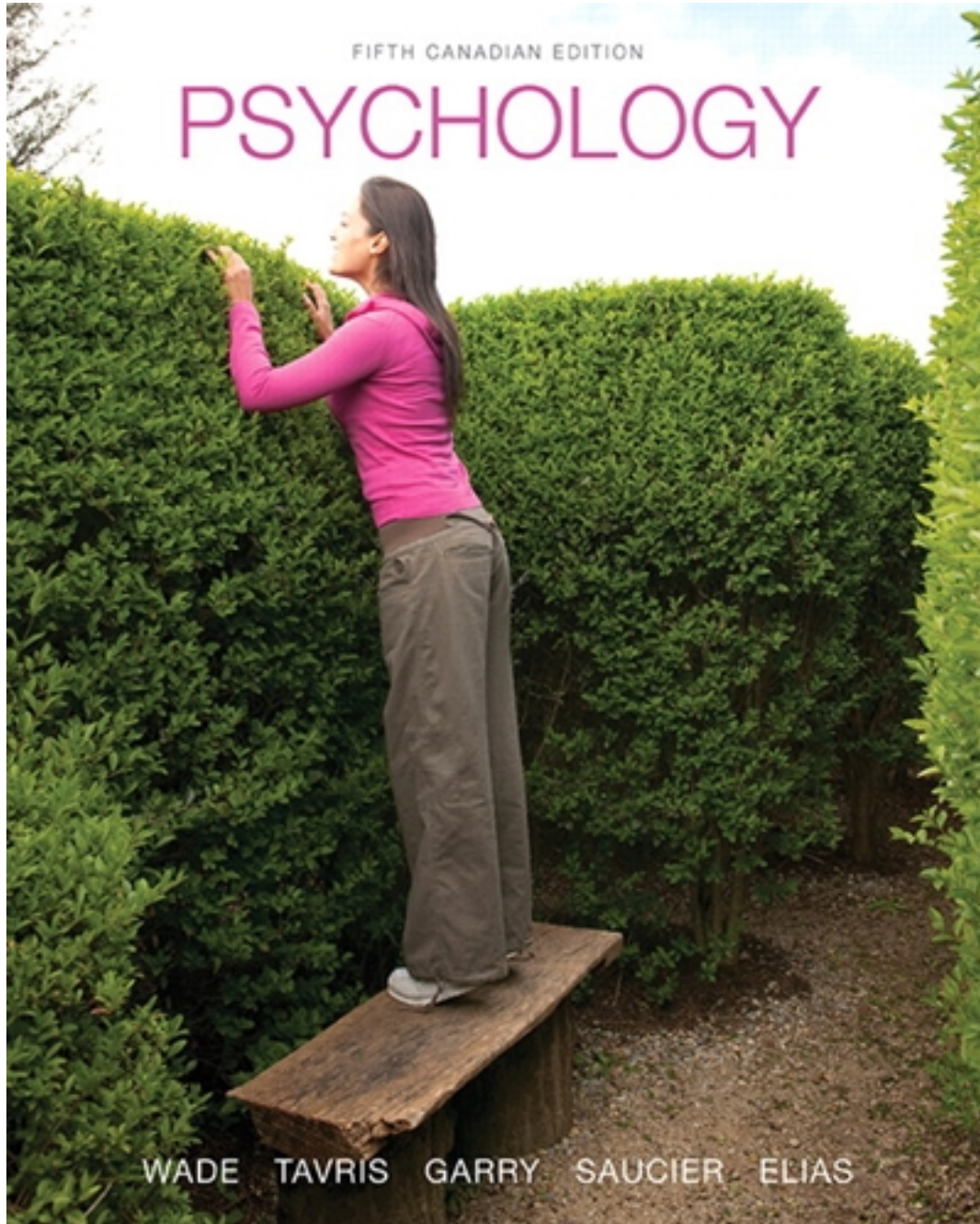


# Test Bank for Psychology 5th Edition by Wade

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# Test Bank

# TOTAL ASSESSMENT GUIDE

## Chapter 2

### The Biological Perspective

Learning Objectives	Remember the Facts	Understand the Concepts	Apply What You Know	Analyze It
LO 2.1 Identify the parts of a neuron and the function of each.	1-10, 12-13, 17-18, 20-26, 199-202, 228-229, 242	15, 19	16	11, 14
LO 2.2 Explain the action potential.	27-29, 31, 203-205, 228, 242	30, 32, 34		33
LO 2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body.	35-39, 41, 45, 47, 49, 51, 53-54, 56, 206-207, 230-232	42-43, 58-59	46, 48, 50, 57	40, 44, 52, 55
LO 2.4 Describe how the brain and spinal cord interact and respond to external experiences.	60-67, 69, 208-212, 243	70, 74	68, 71, 73	72, 233
LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems.	75-76, 78-81, 85-86, 88-90, 92, 213-214, 244	77, 83	82, 84, 87, 91, 93-94	233-234
LO 2.6 Explain why the pituitary gland is known as the "master gland."	96-97, 245	95		
LO 2.7 Recall the role of various endocrine glands.	98-100, 103-104, 215-219, 235, 246		101-102, 105	
LO 2.8 Describe how lesioning studies and brain stimulation are used to study the brain.	106	107		
LO 2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain.	108, 112, 115-116, 118, 220, 236	111, 121	109-110, 113-114, 117, 119-120, 122	
LO 2.10 Identify the different structures of the hindbrain and the function of each.	123-124, 126-127, 129, 131, 134-135, 221		125, 128, 130, 132-133, 136-139	
LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.	140-143, 146-147, 149, 151-153	148	145, 150, 154-155, 222	144
LO 2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body.	156-159, 161-163, 166-167, 170-171, 174, 181, 223-224, 237, 247	164, 179	160, 165, 168-169, 172-173, 175-178, 180	

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<b>Learning Objectives</b>	<b>Remember the Facts</b>	<b>Understand the Concepts</b>	<b>Apply What You Know</b>	<b>Analyze It</b>
LO 2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language.	182-183, 185, 225, 238-239, 247		184, 186-187	
LO 2.14 Explain how some brain functions differ between the left and right hemispheres.	188, 191, 195-196, 198, 226-227, 240	192, 194	189-190, 193, 197	241
LO 2.15 Identify some potential causes of attention-deficit/hyperactivity disorder.				

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Name \_\_\_\_\_

**Chapter 2 - Quick Quiz 1**

1. The two main divisions of the nervous system are the \_\_\_\_\_ and \_\_\_\_\_.
  - a) brain; spinal cord
  - b) autonomic; somatic nervous systems
  - c) peripheral nervous system; central nervous system
  - d) glands; muscles
2. Which part of the neuron is responsible for maintaining the life of the cell?
  - a) axon
  - b) soma
  - c) dendrite
  - d) cell membrane
3. \_\_\_\_\_ plays a critical role as a neurotransmitter that stimulates skeletal muscles to contract.
  - a) acetylcholine
  - b) GABA
  - c) Dopamine
  - d) Endorphin
4. 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
  - b) brain
  - c) reflexes
  - d) interneurons
5. 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
  - d) parasympathetic
6. The hormone released by the pineal gland that reduces body temperature and prepares you for sleep is \_\_\_\_\_.
  - a) melatonin
  - b) DHEA
  - c) parathormone
  - d) thyroxin
7. A brain-imaging method using radio waves and magnetic fields of the body to produce detailed images of the brain is called \_\_\_\_\_.
  - a) magnetic resonance imaging (MRI)
  - b) electroencephalography (EEG)
  - c) positron-emission tomography (PET)
  - d) computerized axial tomography (CT)
8. What part of the brain acts as a relay station for incoming sensory information?
  - a) hypothalamus
  - b) thalamus
  - c) cerebellum
  - d) pituitary gland
9. Which of the following regions contains the primary visual cortex?
  - a) frontal lobe
  - c) temporal lobe

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- b) parietal lobe
- d) occipital lobe
10. Which of the following is a function of the right hemisphere?
- a) perception, expression of emotion, and recognition of patterns
  - b) sense of time and rhythm
  - c) speech, handwriting, and calculation
  - d) language processing in most individuals

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**Chapter 2 - Quick Quiz 1**  
**Answer Key**

1. c Explanation: These are the two main divisions of the nervous system. (Topic: An Overview of the Nervous System, Remember the Facts, 1 - Easy, LO 2.4 - Describe how the brain and spinal cord interact and respond to external experiences, APA 1.1)
2. b Explanation: The soma is responsible for maintaining the life of the cell. (Topic: Neurons and Nerves: Building the Network, Remember the Facts, 2 - Moderate, LO 2.1 - Identify the parts of a neuron and the function of each, APA 1.1)
3. a Explanation: *Acetylcholine is an excitatory neurotransmitter that stimulates muscles to contract.* (Topic: Neurons and Nerves: Building the Network, Remember the Facts, 1 - Easy, LO 2.3 - Describe how neurons use neurotransmitters to communicate with each other and with the body, APA 1.1)
4. b Explanation: That is the responsibility of the brain. (Topic: An Overview of the Nervous System, Remember the Facts, 1 - Easy, LO 2.4 - Describe how the brain and spinal cord interact and respond to external experiences, APA 1.1)
5. c Explanation: The sympathetic nervous system is responsible for reacting to stressful events and bodily arousal. (Topic: An Overview of the Nervous System, Remember the Facts, 2 - Moderate, LO 2.5 - Differentiate the roles of the somatic and autonomic nervous systems, APA 1.1)
6. a Explanation: *The pineal gland secretes melatonin.* (Topic: Distant Connections: The Endocrine Glands, Remember the Facts, 1 - Easy, LO 2.7 - Recall the role of various endocrine glands, APA 1.1)
7. a Explanation: MRI is a brain-imaging method using radio waves and magnetic fields of the body. (Topic: Looking Inside the Living Brain, Remember the Facts, 3 - Difficult, LO 2.9 - Compare and contrast neuroimaging techniques for mapping the structure and function of the brain, APA 1.1)
8. b Explanation: The thalamus acts as a relay station. (Topic: From the Bottom Up: The Structures of the Brain, Remember the Facts, 3 - Difficult, LO 2.11 - Identify the structures of the brain that are involved in emotion, learning, memory, and motivation, APA 1.1)
9. d Explanation: The occipital lobes contain the primary visual cortex. (Topic: From the Bottom Up: The Structures of the Brain, Remember the Facts, 1 - Easy, LO 2.12 - Identify the parts of the cortex that process the different senses and those that control movement of the body, APA 1.1)
10. a Explanation: These are functions of the right hemisphere. (Topic: From the Bottom Up:

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The Structures of the Brain, Understand the Concepts, 2 - Moderate, LO 2.14 – Explain how some brain functions differ between the left and right hemispheres, APA 1.1)

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Name \_\_\_\_\_

**Chapter 2 - Quick Quiz 2**

1. The branchlike structures that receive messages from other neurons are called \_\_\_\_\_.  
a) axons  
b) nerve bundles  
c) dendrites  
d) synapses
2. Which of the following are tiny sacs in a synaptic knob that release chemicals into the synapse?  
a) synaptic vesicles  
b) synaptic nodes  
c) terminal buttons  
d) synaptic gaps
3. Which of the following are responsible for acting as a facilitator of communication between neurons?  
a) motor neurons  
b) interneurons  
c) sensory neurons  
d) reflexes
4. 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  
c) parasympathetic  
d) autonomic
5. Which endocrine gland controls all of the other endocrine glands?  
a) thyroid  
b) adrenal  
c) thymus  
d) pituitary
6. 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  
c) medulla  
d) cerebellum
7. Signals from the neurons of which sense are NOT sent to the cortex by the thalamus?  
a) hearing  
b) smell  
c) taste  
d) vision
8. 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  
b) parietal lobe  
c) temporal lobe  
d) frontal lobe
9. The area of the frontal lobe that is devoted to the production of fluent speech is \_\_\_\_\_ area.  
a) Broca's  
b) Gall's  
c) Wernicke's  
d) Korsakoff's

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10. 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
  - c) corpus callosum
  - d) cerebellum

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**Chapter 2 - Quick Quiz 2**  
**Answer Key**

1. c Explanation: Dendrites receive messages from other neurons. (Topic: Neurons and Nerves: Building the Network, Remember the Facts, 1 - Easy, LO 2.1 - Identify the parts of a neuron and describe the function of each, APA 1.1)
2. a Explanation: Synaptic vesicles are structures within the synaptic knobs. (Topic: Neurons and Nerves: Building the Network, Remember the Facts, 2 - Moderate, LO 2.3 - Describe how neurons use neurotransmitters to communicate with each other and with the body, APA 1.1)
3. b Explanation: Interneurons connect the sensory neurons to the motor neurons. (Topic: An Overview of the Nervous System, Remember the Facts, 1 - Easy, LO 2.4 - Describe how the brain and spinal cord interact and respond to external experiences, APA 1.1)
4. b Explanation: The somatic nervous system controls voluntary muscle movement. (Topic: An Overview of the Nervous System, Understand the Concepts, 3 - Difficult, LO 2.5 - Differentiate the roles of the somatic and autonomic nervous systems, APA 1.1)
5. d Explanation: The pituitary gland controls all other endocrine glands. (Topic: Distant Connections: The Endocrine Glands, Remember the Facts, 1 - Easy, LO 2.7 - Recall the role of various endocrine glands, APA 1.1)
6. c Explanation: This is the point where nerves cross over. (Topic: From the Bottom Up: The Structures of the Brain, Remember the Facts, 2 - Moderate, LO 2.10 - Identify the different structures of the hindbrain and the function of each, APA 1.1)
7. b Explanation: Signals from the neurons of the sense of smell go directly into special parts of the brain called olfactory bulbs that are the structures responsible for smell. (Topic: From the Bottom Up: The Structures of the Brain, Remember the Facts, 2 - Moderate, LO 2.11 - Identify the structures of the brain that are involved in emotion, learning, memory, and motivation, APA 1.1)
8. a Explanation: The occipital lobes contain the visual centers of the brain. (Topic: From the Bottom Up: The Structures of the Brain, Remember the Facts, 1 - Easy, LO 2.12 - Identify the parts of the cortex that process the different senses and those that control movement of the body, APA 1.1)
9. a Explanation: Broca's area is devoted to the production of fluent speech. (Topic: From the Bottom Up: The Structures of the Brain, Remember the Facts, 2 - Moderate, LO 2.13 - Name the parts of the cortex that are responsible for higher forms of thought, such as language, APA 1.1)
10. b Explanation: The cerebrum consists of the two cerebral hemispheres and the structures that connect them. (Topic: From the Bottom Up: The Structures of the Brain, Remember the Facts, 3 -

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Difficult, LO 2.14 - Explain how some brain functions differ between the left and right hemispheres, APA 1.1)

# 2 The Biological Perspective

**Key: Topic, Answer, Type, Learning Objective, Level, Learning Outcomes**

**Bloom Types**

*Remember the Facts*

*Understand the Concepts*

*Apply What You Know*

*Analyze It*

**Level**

*(1)=Easy; (2)=Moderate; (3)=Difficult*

**LO=Learning Objective**

**APA=Learning Outcomes**

**MULTIPLE CHOICE**

**Neurons and Nerves: Building the Network**

**Structure of the Neurons: The Nervous System's Building Block**

**Learning Objective 2.1** - Identify the parts of a neuron and the function of each.

**TB\_02\_01\_Neurons and Nerves: Building the Network Remember LO 2.1, APA 1.1**

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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (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**

**APA=1.1**

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**TB\_02\_02\_Neurons and Nerves: Building the Network\_Remember\_LO 2.1, APA 1.1**

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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (1)**

**% correct 92 a= 92 b= 1 c= 6 d= 1 r = .27**

**% correct 94 a= 94 b= 1 c=4 d= 0 r = .26**

**APA=1.1**

**TB\_02\_03\_Neurons and Nerves: Building the Network\_Remember\_LO 2.1, APA 1.2**

The branch of life sciences which involves the structure and function of the brain and nervous system is called \_\_\_\_\_.

- a) neuroscience

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

- b) bioscience

*Incorrect. The correct answer is neuroscience.*

- c) brain scientology
- d) neurostemology

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (1)**

**APA=1.2**

**TB\_02\_04\_Neurons and Nerves: Building the Network\_Remember\_LO 2.1, APA 1.2**

The branch of neuroscience that focuses on the biological bases of psychological processes, behavior, and learning is called \_\_\_\_\_.

- a) biological psychology

*Correct. This is the branch of neuroscience that covers these topics.*

- b) bioscience

*Incorrect. The correct answer is biological psychology, which is also called behavioral neuroscience.*

- c) brain scientology
- d) neurostemology

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

**APA=1.2**

**TB\_02\_05\_Neurons and Nerves: Building the Network\_Remember\_LO 2.1, APA 1.1**

A specialized cell that makes up the nervous system 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

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

- c) cell body
- d) myelin sheath

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (1)**

**% correct 96 a= 4 b= 96 c= 0 d= 0 r = .19**

**% correct 97 a= 2 b= 97 c= 1 d= 0 r = .39**

**APA=1.1**

**TB\_02\_06\_Neurons and Nerves: Building the Network Remember LO 2.1, APA 1.1**

The part of the neuron whose name literally means “branch” is \_\_\_\_\_.

- a) axon

*Incorrect. Dendrite is the correct answer.*

- b) dendrite

*Correct. Dendrite comes from the word tree.*

- c) myelin
- d) soma

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

**% correct 77 a= 20 b= 77 c= 1 d= 1 r = .32**

**APA=1.1**

**TB\_02\_07\_Neurons and Nerves: Building the Network Remember LO 2.1, APA 1.1**

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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (1)**

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

**% correct 83 a=11 b= 0 c= 83 d= 5 r = .31**

**APA=1.1**

**TB\_02\_08\_Neurons and Nerves: Building the Network Remember LO 2.1, APA 1.1**

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.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

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% correct 70 a= 5 b= 70 c= 2 d= 23 r = .37

% correct 74 a= 0 b= 74 c= 26 d= 1 r = .32

APA=1.1

**TB\_02\_09\_Neurons and Nerves: Building the Network Remember\_LO 2.1, APA 1.1**

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.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: d, Remember the Facts, LO= 2.1 Identify the parts of a neuron and the function of each., (2)**

% correct 67 a= 7 b= 23 c= 2 d= 67 r = .56

APA=1.1

**TB\_02\_10\_Neurons and Nerves: Building the Network Remember\_LO 2.1, APA 1.1**

By what other name is a soma called?

- a) axon
- b) cell body

*Correct. The soma is also called the cell body.*

- c) dendrite
- d) cell membrane

*Incorrect. The soma is also called the cell body.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (1)**

APA=1.1

**TB\_02\_11\_Neurons and Nerves: Building the Network Analyze\_LO 2.1, APA 1.1**

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.

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Analyze It, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

APA=1.1

**TB\_02\_12\_Neurons and Nerves: Building the Network Remember\_LO 2.1, APA 1.1**

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.*

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- c) dendrite

*Incorrect. Dendrites receive messages.*

- d) cell membrane

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Remember the Facts, LO= 2.1 Identify the parts of a neuron and the function of each., (1)**

**% correct 81 a= 2 b= 81 c= 14 d= 4 r = .31**

**APA=1.1**

**TB\_02\_13\_Neurons and Nerves: Building the Network Remember LO 2.1, APA 1.1**

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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

**% correct 67 a= 67 b= 2 c= 10 d= 21 r = .41**

**% correct 80 a= 80 b= 6 c= 13 d= 2 r = .30**

**APA=1.1**

**TB\_02\_14\_Neurons and Nerves: Building the Network Analyze LO 2.1, APA 1.1**

\_\_\_\_\_ 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 carry messages to other cells.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: d, Analyze It, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

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

**% correct 78 a= 17 b= 3 c= 1 d= 78 r = .46**

**APA=1.1**

**TB\_02\_15\_Neurons and Nerves: Building the Network Understand LO 2.1, APA 1.1**

Which of the following BEST represents the order in which a neuron receives and transmits information?

- a) dendrites, cell body, axon, axon terminals

*Correct. The dendrite receives a message, the cell body processes it, the axon takes a message to the axon terminals, and the terminal buttons release neurotransmitters.*

- b) axon terminals, dendrites, cell body, axon

- c) cell body, dendrites, axon terminals, axon

*Incorrect. Every part of this answer is out of the correct order.*

- d) axon, cell body, dendrites, axon terminals

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Understand the Concepts, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

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APA=1.1

**TB\_02\_16\_Neurons and Nerves: Building the Network\_Apply\_LO 2.1, APA 1.1**

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

- a) dendrites, axon, soma, 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.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: d, Apply What You Know, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

APA=1.1

**TB\_02\_17\_Neurons and Nerves: Building the Network\_Remember\_LO 2.1, APA 1.1**

What is the term used to describe the bulbs 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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

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

**% correct 52 a= 52 b= 20 c= 13 d= 15 r = .38**

APA=1.1

**TB\_02\_18\_Neurons and Nerves: Building the Network\_Remember\_LO 2.1, APA 1.1**

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.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: d, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

**% correct 73 a= 24 b= 1 c= 2 d= 73 r = .33**

**% correct 75 a= 19 b= 1 c= 5 d= 75 r = .20**

APA=1.1

**TB\_02\_19\_Neurons and Nerves: Building the Network\_Understand\_LO 2.1, APA 1.1**

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.*

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- 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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Understand the Concepts, LO=2.1 Identify the parts of a neuron and the function of each., (3)**

**% correct 59 a= 59 b= 4 c= 11 d= 22 r = .32**

**% correct 61 a= 61 b= 8 c= 7 d= 24 r = .32**

**APA=1.1**

**TB\_02\_20\_Neurons and Nerves: Building the Network Remember LO 2.1, APA 1.1**

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 sheath

*Incorrect. The myelin sheath does not serve as a structure on which neurons develop and work.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (3)**

**% correct 46 a= 3 b= 1 c= 46 d= 51 r = .34**

**APA=1.1**

**TB\_02\_21\_Neurons and Nerves: Building the Network Remember LO 2.1, APA 1.1**

Two specialized types of glial cells are called \_\_\_\_\_ and \_\_\_\_\_.

- a) occipital; lobitocal
- b) oligodendrocytes; Schwann cells

*Correct. These are the two types according to the text.*

- c) occipital; Schwann

*Incorrect. B is the correct answer.*

- d) oligodendrocytes; lobitocal

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (3)**

**APA=1.1**

**TB\_02\_22\_Neurons and Nerves: Building the Network Remember LO 2.1, APA 1.1**

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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

**% correct 71 a= 14 b= 7 c= 71 d= 9 r = .33**

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% correct 62 a= 28 b= 3 c= 62 d= 8 r = .44  
APA=1.1

**TB\_02\_23\_Neurons and Nerves: Building the Network\_Remember\_LO 2.1, APA 1.1**

Which of the following is TRUE about myelin?

- a) It's made of a fatty substance.

*Correct. Myelin is made up of a fatty type of 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.

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

APA=1.1

**TB\_02\_24\_Neurons and Nerves: Building the Network\_Remember\_LO 2.1, APA 1.1**

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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

% correct 78 a= 2 b= 8 c= 78 d= 13 r = .31

APA=1.1

**TB\_02\_25\_Neurons and Nerves: Building the Network\_Remember\_LO 2.1, APA 1.1**

A group of axons bundled together coated in myelin that travels together through the body is called a \_\_\_\_\_.

- a) synaptic vesicle

- b) nerve

*Correct. Bundles of myelin-coated axons travel together in cables called nerves.*

- c) neurilemma

*Incorrect. Neurilemma enable damaged neurons to repair themselves.*

- d) myelinated pathway

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (2)**

% correct 60 a= 20 b= 60 c= 6 d= 14 r = .49

APA=1.1

**TB\_02\_26\_Neurons and Nerves: Building the Network\_Remember\_LO 2.1, APA 1.1**

A nerve is a group of \_\_\_\_\_ bundled together.

- a) axons

*Correct. Nerves are bundles of myelin-coated axons.*

- b) interneurons

- c) dendrites

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*Incorrect. Dendrites are part of the neuron.*

- d) glial cells

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (3)**

**% correct 37 a= 37 b= 37 c= 8 d= 18 r = .31**

**APA=1.1**

**Generating the Message Within the Neuron: The Neural Impulse**

**Learning Objective 2.2** - Explain the action potential.

**TB\_02\_27\_Neurons and Nerves: Building the Network\_Remember\_LO 2.2, APA 1.1**

When a cell is “at rest,” it is in a state called the \_\_\_\_\_.

- a) stopping point
- b) obcipation 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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Remember the Facts, LO=2.2 Explain the action potential., (1)**

**% correct 85 a= 1 b= 0 c= 85 d= 13 r = .41**

**APA=1.1**

**TB\_02\_28\_Neurons and Nerves: Building the Network\_Remember\_LO 2.2, APA 1.1**

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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Remember the Facts, LO=2.2 Explain the action potential., (1)**

**% correct 84 a= 11 b= 84 c= 1 d=4 r = .18**

**APA=1.1**

**TB\_02\_29\_Neurons and Nerves: Building the Network\_Remember\_LO 2.2, APA 1.1**

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.*

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**TOPIC: Neurons and Nerves: Building the Network**

**ANS: d, Remember the Facts, LO=2.2 Explain the action potential., (1)**

**% correct 85 a= 4 b= 4 c= 7 d= 85 r = .19**

**APA=1.1**

**TB\_02\_30\_Neurons and Nerves: Building the Network\_Understand\_LO 2.2, APA 1.1**

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 the neuron's membrane are what give rise to a negative resting potential.*

- d) positively

*Incorrect. It is during the action potential that the positively charged ions flow into the neuron and outnumber the negatively charged ions.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Understand the Concepts, LO=2.2 Explain the action potential., (2)**

**APA=1.1**

**TB\_02\_31\_Neurons and Nerves: Building the Network\_Remember\_LO 2.2, APA 1.1**

When the electrical 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 continued to be at rest.*

- b) excitation reaction
- c) action potential

*Correct. This is the state where the electrical charge is reversed.*

- d) permeable reaction

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Remember the Facts, LO=2.2 Explain the action potential., (2)**

**% correct 75 a= 14 b= 10 c= 75 d= 1 r = .31**

**APA=1.1**

**TB\_02\_32\_Neurons and Nerves: Building the Network\_Understand\_LO 2.2, APA 1.1**

The term "fire" when referring to neural transmission indicates that a neuron:

- a) has become less positive in charge.
- b) has received, in its dendrites, appropriate inputs from other neurons.

*Correct. A neuron fires after the dendrites receive enough stimulation to trigger the cell body to generate an action potential.*

- c) is unable to transmit information to another neuron.
- d) has become more negative in charge.

*Incorrect. In fact, the firing state of the neuron occurs when it generates a positive charge rather than a negative charge.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Understand the Concepts, LO=2.2 Explain the action potential., (3)**

**APA=1.1**

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**TB\_02\_33\_Neurons and Nerves: Building the Network\_Analyze\_LO 2.2, APA 1.1**

During action potential, the electrical charge inside the neuron is \_\_\_\_\_ the electrical charge outside the neuron.

- a) positive compared to

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

- b) larger than
- c) negative compared to

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

- d) smaller than

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Analyze It, LO=2.2 Explain the action potential., (3)**

**APA=1.1**

**TB\_02\_34\_Neurons and Nerves: Building the Network\_Understand\_LO 2.2, APA 1.1**

When a neuron fires, it fires in a(n) \_\_\_\_\_ fashion, as there is no such thing as “partial” firing.

- a) all-or-none

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

- b) rapid fire
- c) accidental patterned
- d) quick successioned

*Incorrect. This is not the term referred to in the book.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Understand the Concepts, LO=2.2 Explain the action potential., (2)**

**APA=1.1**

**Neurotransmission**

**Learning Objective 2.3** - Describe how neurons use neurotransmitters to communicate with each other and with the body.

**TB\_02\_35\_Neurons and Nerves: Building the Network\_Remember\_LO 2.3, APA 1.1**

The saclike structures found inside the synaptic knob containing chemicals are called \_\_\_\_\_.

- a) axon terminals

*Incorrect. The axon terminals are limb-like structures.*

- b) synapses
- c) synaptic vesicles

*Correct. Synaptic vesicles are structures within the synaptic knobs.*

- d) receptor sites

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (2)**

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

**% correct 64 a= 20 b= 12 c= 64 d= 14 r = .45**

**APA=1.1**

**TB\_02\_36\_Neurons and Nerves: Building the Network\_Remember\_LO 2.3, APA 1.1**

Which of the following are tiny sacs in an axon terminal that release chemicals into the synapse?

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- 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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (3)**

**APA=1.1**

**TB\_02\_37\_Neurons and Nerves: Building the Network Remember LO 2.3, APA 1.1**

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.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (2)**

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

**APA=1.1**

**TB\_02\_38\_Neurons and Nerves: Building the Network Remember LO 2.3, APA 1.1**

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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (2)**

**APA=1.1**

**TB\_02\_39\_Neurons and Nerves: Building the Network Remember LO 2.3, APA 1.1**

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

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**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (1)**

**APA=1.1**

**TB\_02\_40\_Neurons and Nerves: Building the Network\_Analyze\_LO 2.3, APA 1.1**

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.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Analyze It, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (3)**

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

**% correct 56 a= 5 b= 16 c= 56 d= 27 r = .35**

**APA=1.1**

**TB\_02\_41\_Neurons and Nerves: Building the Network\_Remember\_LO 2.3, APA 1.1**

\_\_\_\_\_ are three-dimensional proteins on 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.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: d, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (1)**

**APA=1.1**

**TB\_02\_42\_Neurons and Nerves: Building the Network\_Understand\_LO 2.3, APA 1.1**

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 chiasm

- d) response terminals

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Understand the Concepts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (2)**

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APA=1.1

**TB\_02\_43\_Neurons and Nerves: Building the Network\_Understand\_LO 2.3, APA 1.1**

\_\_\_\_\_ synapses make it more likely that a neuron will send its message to other neurons, whereas \_\_\_\_\_ synapses make it less likely that a neuron will send its message.

- a) Excitatory; inhibitory

*Correct. Excitatory synapses turn cells on and inhibitory ones turn cells off.*

- b) Inhibitory; excitatory

*Incorrect. Inhibitory synapses turn cells off and excitatory ones turn cells on.*

- c) Augmentation; depletion
- d) Depletion; augmentation

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Understand the Concepts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (1)**

**% correct 89 a= 89 b= 8 c= 3 d= 0 r = .48**

APA=1.1

**TB\_02\_44\_Neurons and Nerves: Building the Network\_Analyze\_LO 2.3, APA 1.1**

Agonist is to antagonist as:

- a) neuromodulator is to neurotransmitter.
- b) reuptake is to receptor.
- c) mimic is to block.

*Correct. Agonists mimic neurotransmitters by stimulating specific receptor sites, and antagonists block receptor sites.*

- d) block is to mimic.

*Incorrect. This is the opposite of the correct answer.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Analyze It, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (2)**

APA=1.1

**TB\_02\_45\_Neurons and Nerves: Building the Network\_Remember\_LO 2.3, APA 1.1**

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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (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**

APA=1.1

**TB\_02\_46\_Neurons and Nerves: Building the Network\_Apply\_LO 2.3, APA 1.1, 1.3**

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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 bloodstream

*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.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: d, Apply What You Know, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (3)**

**APA=1.1; 1.3**

**TB\_02\_47\_Neurons and Nerves: Building the Network Remember LO 2.3, APA 1.1**

\_\_\_\_\_ plays a critical role as a neurotransmitter that stimulates skeletal 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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (3)**

**APA=1.1**

**TB\_02\_48\_Neurons and Nerves: Building the Network Apply LO 2.3, APA 1.1, 1.3**

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.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: d, Apply What You Know, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (2)**

**% correct 33 a= 0 b= 26 c=41 d= 33 r = .19**

**APA=1.1; 1.3**

**TB\_02\_49\_Neurons and Nerves: Building the Network Remember LO 2.3, APA 1.1**

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

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d) acetylcholine

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (3)**

**% correct 60 a= 6 b= 60 c= 25 d= 8 r = .26**

**APA=1.1**

**TB\_02\_50\_Neurons and Nerves: Building the Network\_Apply\_LO 2.3, APA 1.1, 1.3**

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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Apply What You Know, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (2)**

**APA=1.1; 1.3**

**TB\_02\_51\_Neurons and Nerves: Building the Network\_Remember\_LO 2.3, APA 1.1**

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.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: b, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (3)**

**APA=1.1**

**TB\_02\_52\_Neurons and Nerves: Building the Network\_Analyze\_LO 2.3, APA 1.1**

The effect of alcohol is to enhance the effect of \_\_\_\_\_, which causes the general inhibition of the nervous system associated with getting drunk.

a) GABA

*Correct. GABA is an inhibitory neurotransmitter.*

b) serotonin

c) dopamine

d) acetylcholine

*Incorrect. Acetylcholine is not associated with the effects of alcohol.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Analyze It, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (3)**

**APA=1.1**

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**TB\_02\_53\_Neurons and Nerves: Building the Network\_Remember\_LO 2.3, APA 1.1**

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.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (2)**

**% correct 74 a= 4 b= 7 c= 74 d= 15 r = .41**

**APA=1.1**

**TB\_02\_54\_Neurons and Nerves: Building the Network\_Remember\_LO 2.3, APA 1.1**

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.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: d, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (1)**

**% correct 81 a= 3 b= 7 c= 8 d= 81 r = .42**

**APA=1.1**

**TB\_02\_55\_Neurons and Nerves: Building the Network\_Analyze\_LO 2.3, APA 1.1**

Because they have similar chemical structures, morphine and heroin 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 a natural substance that has the same effect as opiates.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: d, Analyze It, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (3)**

**APA=1.1**

**TB\_02\_56\_Neurons and Nerves: Building the Network\_Remember\_LO 2.3, APA 1.1**

Reuptake is \_\_\_\_\_.

- a) a chemical that is released into the synaptic gap

*Incorrect. Reuptake is a process.*

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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 taken back into the synaptic vesicles

*Correct. This is the definition of reuptake.*

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

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: c, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (2)**

**% correct 77 a= 7 b= 13 c= 77 d= 3 r = .41**

**APA=1.1**

**TB\_02\_57\_Neurons and Nerves: Building the Network\_Apply\_LO 2.3, APA 1.1, 1.3**

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 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.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: d, Apply What You Know, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (3)**

**APA=1.1; 1.3**

**TB\_02\_58\_Neurons and Nerves: Building the Network\_Understand\_LO 2.3, APA 1.1**

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.

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: a, Understand the Concepts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (3)**

**APA=1.1**

**TB\_02\_59\_Neurons and Nerves: Building the Network\_Understand\_LO 2.3, APA 1.1**

Enzymatic degradation is the process by which an excess of a neurotransmitter called \_\_\_\_\_ is removed from synapses. Other neurotransmitters can be removed via the process of reuptake.

a) dopamine

b) GABA

c) norepinephrine

*Incorrect. NE can be removed via either process.*

d) acetylcholine

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*Correct. ACh cannot be removed via reuptake, and so it requires enzymatic degradation.*

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: d, Understand the Concepts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (3)**

**APA=1.1**

## **An Overview of the Nervous System**

### **The Central Nervous System: The "Central Processing Unit"**

**Learning Objective 2.4** - Describe how the brain and spinal cord interact and respond to external experiences.

#### **TB\_02\_60\_An Overview of the Nervous System Remember\_LO 2.4, APA 1.1**

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

**TOPIC: An Overview of the Nervous System**

**ANS: c, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (1)**

**% correct 73 a=8 b= 18 c= 73 d= 0 r = .42**

**% correct 68 a= 18 b= 13 c= 68 d= 0 r = .47**

**APA=1.1**

#### **TB\_02\_61\_An Overview of the Nervous System Remember\_LO 2.4, APA 1.1**

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

**TOPIC: An Overview of the Nervous System**

**ANS: a, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (1)**

**% correct 100 a= 100 b= 0 c= 0 d= 0 r = .00**

**% correct 94 a= 94 b= 2 c= 1 d= 2 r = .39**

**APA=1.1**

#### **TB\_02\_62\_An Overview of the Nervous System Remember\_LO 2.4, APA 1.1**

The central nervous system consists of \_\_\_\_\_.

- a) the parasympathetic and sympathetic divisions

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

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- 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

**TOPIC: An Overview of the Nervous System**

**ANS: b, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (2)**

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

**% correct 82 a= 16 b= 82 c= 1 d= 2 r = .32**

**APA=1.1**

**TB\_02\_63\_An Overview of the Nervous System Remember LO 2.4, APA 1.1**

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

**TOPIC: An Overview of the Nervous System**

**ANS: b, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (1)**

**% correct 85 a= 7 b= 85 c= 1 d= 7 r = .21**

**APA=1.1**

**TB\_02\_64\_An Overview of the Nervous System Remember LO 2.4, APA 1.1**

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

**TOPIC: An Overview of the Nervous System**

**ANS: a, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (1)**

**% correct 89 a= 89 b= 0 c= 2 d= 9 r = .31**

**APA=1.1**

**TB\_02\_65\_An Overview of the Nervous System Remember LO 2.4, APA 1.1**

Which of the following is a long bundle of neurons that functions as a carrier of messages to 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

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- 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

**TOPIC: An Overview of the Nervous System**

**ANS: a, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (2)**

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

**APA=1.1**

**TB\_02\_66\_An Overview of the Nervous System Remember\_LO 2.4, APA 1.1**

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.*

**TOPIC: An Overview of the Nervous System**

**ANS: d, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (1)**

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

**% correct 79 a= 13 b= 8 c= 0 d= 79 r = .31**

**APA=1.1**

**TB\_02\_67\_An Overview of the Nervous System Remember\_LO 2.4, APA 1.1**

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

**TOPIC: An Overview of the Nervous System**

**ANS: c, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (2)**

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

**% correct 80 a= 11 b= 9 c= 80 d= 1 r = .28**

**APA=1.1**

**TB\_02\_68\_An Overview of the Nervous System Apply\_LO 2.4, APA 1.1, 1.3**

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

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

- c) sensory neurons
- d) reflexes

**TOPIC: An Overview of the Nervous System**

**ANS: a, Apply What You Know, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (3)**

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

**APA=1.1; 1.3**

**TB\_02\_69\_An Overview of the Nervous System\_Remember\_LO 2.4, APA 1.1**

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

**TOPIC: An Overview of the Nervous System**

**ANS: b, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (2)**

**APA=1.1**

**TB\_02\_70\_An Overview of the Nervous System\_Understand\_LO 2.4, APA 1.1**

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

**TOPIC: An Overview of the Nervous System**

**ANS: b, Understand the Concepts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (1)**

**% correct 80 a= 8 b= 80 c= 8 d= 3 r = .37**

**APA=1.1**

**TB\_02\_71\_An Overview of the Nervous System\_Apply\_LO 2.4, APA 1.1, 1.3**

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

**TOPIC: An Overview of the Nervous System**

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**ANS: c, Apply What You Know, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (1)**

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

**APA=1.1; 1.3**

**TB\_02\_72\_An Overview of the Nervous System\_Analyze\_LO 2.4, APA 1.1, 1.3**

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.*

**TOPIC: An Overview of the Nervous System**

**ANS: b, Analyze It, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (3)**

**% correct 49 a= 17 b= 49 c= 14 d= 21 r = .51**

**APA=1.1; 1.3**

**TB\_02\_73\_An Overview of the Nervous System\_Apply\_LO 2.4, APA 1.1, 1.3**

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.*

**TOPIC: An Overview of the Nervous System**

**ANS: c, Apply What You Know, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (2)**

**APA=1.1; 1.3**

**TB\_02\_74\_An Overview of the Nervous System\_Understand\_LO 2.4, APA 1.1**

Neuroplasticity is most evident in which of the following circumstances?

- a) during the elderly years

*Incorrect. As your authors point out, plasticity is higher during childhood than in later years.*

- b) when we learn something new or store new information

*Correct. Learning or storing new information would cause the brain to change its structure slightly, which demonstrates plasticity.*

- c) when we are trying to undo previous pruning
- d) when reuptake of excess neurotransmitters is taking place

**TOPIC: An Overview of the Nervous System Neurons and Nerves: Building the Network**

**ANS: b, Understand the Concepts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (3)**

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APA=1.1

**The Peripheral Nervous System: Nerves on the Edge**

**Learning Objective 2.5** - Differentiate the roles of the somatic and autonomic nervous systems.

**TB\_02\_75\_An Overview of the Nervous System\_Remember\_LO 2.5, APA 1.1**

Which statement is NOT true about the peripheral nervous system (PNS)?

- a) The PNS consists of the brain and spinal cord.

*Correct. These are parts of the central nervous system (CNS).*

- b) The PNS consists of the nerves and neurons not in the central nervous system (CNS).

*Incorrect. This is an accurate definition of the PNS.*

- c) The PNS allows the brain and spinal cord to coordinate with sensory systems.

- d) The PNS allows the brain and spinal cord to coordinate with muscles and glands in the body.

**TOPIC: An Overview of the Nervous System**

**ANS: a, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems.,**

**(2)**

APA=1.1

**TB\_02\_76\_An Overview of the Nervous System\_Remember\_LO 2.5, APA 1.1**

The peripheral nervous system consists of \_\_\_\_\_.

- a) all of 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 of the 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

**TOPIC: An Overview of the Nervous System**

**ANS: a, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems.,**

**(2)**

**% correct 69 a= 69 b= 6 c= 15 d= 10 r = .45**

APA=1.1

**TB\_02\_77\_An Overview of the Nervous System\_Understand\_LO 2.5, APA 1.1**

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

**TOPIC: An Overview of the Nervous System**

**ANS: a, Understand the Concepts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2)**

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% correct 69 a= 69 b= 22 c= 7 d= 1 r = .43  
APA=1.1

**TB\_02\_78\_An Overview of the Nervous System Remember LO 2.5, APA 1.1**

The peripheral nervous system consists of the \_\_\_\_\_ and \_\_\_\_\_ 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.*

**TOPIC: An Overview of the Nervous System**

**ANS: a, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (3)**

% correct 53 a= 53 b= 7 c= 5 d= 35 r = .33  
% correct 57 a= 57 b= 11 c= 7 d= 25 r = .40  
APA=1.1

**TB\_02\_79\_An Overview of the Nervous System Remember LO 2.5, APA 1.1**

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

**TOPIC: An Overview of the Nervous System**

**ANS: a, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2)**

% correct 69 a= 69 b= 17 c=11 d= 3 r = .46  
APA=1.1

**TB\_02\_80\_An Overview of the Nervous System Remember LO 2.5, APA 1.1**

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

**TOPIC: An Overview of the Nervous System**

**ANS: c, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (3)**

% correct 59 a= 25 b= 13 c= 59 d= 3 r = .46

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APA=1.1

**TB\_02\_81\_An Overview of the Nervous System Remember LO 2.5, APA 1.1**

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

**TOPIC: An Overview of the Nervous System**

**ANS: b, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems.,**

**(1)**

APA=1.1

**TB\_02\_82\_An Overview of the Nervous System Apply LO 2.5, APA 1.1, 1.3**

Vladimir is typing on the computer keyboard. The motion of his fingers on the keys is probably being controlled by the \_\_\_\_\_.

- a) 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

**TOPIC: An Overview of the Nervous System**

**ANS: c, Apply What You Know, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (3)**

APA=1.1; 1.3

**TB\_02\_83\_An Overview of the Nervous System Understand LO 2.5, APA 1.1**

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.*

**TOPIC: An Overview of the Nervous System**

**ANS: b, Understand the Concepts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (3)**

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

**% correct 60 a= 14 b= 60 c= 11 d= 14 r = .21**

APA=1.1

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**TB\_02\_84\_An Overview of the Nervous System\_Apply\_LO 2.5, APA 1.1, 1.3**

As she walks out of the living room, Gloriann turns out the light. In this example, Gloriann'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.*

**TOPIC: An Overview of the Nervous System**

**ANS: d, Apply What You Know, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (3)**

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

**APA=1.1; 1.3**

**TB\_02\_85\_An Overview of the Nervous System\_Remember\_LO 2.5, APA 1.1**

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

**TOPIC: An Overview of the Nervous System**

**ANS: b, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2),**

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

**APA=1.1**

**TB\_02\_86\_An Overview of the Nervous System\_Remember\_LO 2.5, APA 1.1**

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

**TOPIC: An Overview of the Nervous System**

**ANS: b, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2)**

**% correct 71 a= 10 b= 71 c= 10 d= 7 r = .26**

**APA=1.1**

**TB\_02\_87\_An Overview of the Nervous System\_Apply\_LO 2.5, APA 1.1, 1.3**

When you see someone you have a crush on and your heart pounds, your hands get sweaty, and your cheeks feel hot, your \_\_\_\_\_ nervous system is active.

- a) skeletal

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- b) spinal
- c) autonomic

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

- d) somatic

*Incorrect. The somatic nervous system controls voluntary muscles.*

**TOPIC: An Overview of the Nervous System**

**ANS: c, Apply What You Know, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2)**

**APA=1.1; 1.3**

**TB\_02\_88\_An Overview of the Nervous System\_Remember\_LO 2.5, APA 1.1**

The autonomic nervous system has two divisions: 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

**TOPIC: An Overview of the Nervous System**

**ANS: b, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (1)**

**% correct 96 a= 4 b= 96 c= 0 d= 0 r = .19**

**% correct 91 a= 6 b= 91 c= 1 d= 3 r = .22**

**APA=1.1**

**TB\_02\_89\_An Overview of the Nervous System\_Remember\_LO 2.5, APA 1.1**

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.*

**TOPIC: An Overview of the Nervous System**

**ANS: c, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2)**

**% correct 60 a= 8 b= 12 c= 60 d= 20 r = .37**

**% correct 69 a= 3 b= 10 c= 69 d= 17 r = .47**

**APA=1.1**

**TB\_02\_90\_An Overview of the Nervous System\_Remember\_LO 2.5, APA 1.1**

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

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*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.*

**TOPIC: An Overview of the Nervous System**

**ANS: c, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2)**

**% correct 66 a= 5 b= 9 c= 66 d= 19 r = .40**

**% correct 79 a= 1 b= 5 c= 79 d= 14 r = .40**

**APA=1.1**

**TB\_02\_91\_An Overview of the Nervous System\_Apply\_LO 2.5, APA 1.1, 1.3**

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.*

**TOPIC: An Overview of the Nervous System**

**ANS: d, Apply What You Know, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (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**

**APA=1.1; 1.3**

**TB\_02\_92\_An Overview of the Nervous System\_Remember\_LO 2.5, APA 1.1**

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.*

**TOPIC: An Overview of the Nervous System**

**ANS: d, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2)**

**% correct 66 a= 2 b= 9 c= 23 d= 66 r = .37**

**APA=1.1**

**TB\_02\_93\_An Overview of the Nervous System\_Apply\_LO 2.5, APA 1.1, 1.3**

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 was responsible for putting Malcolm's body on "high alert" when he did not know the source of the sound?

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- a) spinal cord
- b) somatic nervous system
- c) sympathetic nervous system

*Correct. The sympathetic nervous system mobilizes the body in times of stress.*

- d) parasympathetic nervous system

*Incorrect. The parasympathetic nervous system restores the body to normal functioning after arousal.*

**TOPIC: An Overview of the Nervous System**

**ANS: c, Apply What You Know, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2)**

**APA=1.1; 1.3**

**TB\_02\_94\_An Overview of the Nervous System\_Apply\_LO 2.5, APA 1.1, 1.3**

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.*

**TOPIC: An Overview of the Nervous System**

**ANS: d, Apply What You Know, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2)**

**APA=1.1; 1.3**

## **Distant Connections: The Endocrine Glands**

### **The Pituitary: Master of the Hormonal Universe**

**Learning Objective 2.6** - Explain why the pituitary gland is known as the “master gland.”

**TB\_02\_95\_Distant Connections: The Endocrine Glands\_Understand\_LO 2.6, APA 1.1**

The idea that the pituitary gland is the “master gland”:

- a) is completely accurate and appropriate.

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

- b) is completely inaccurate since it doesn't control any other glands or related structures.
- c) is true; yet, it is still controlled by the brain.

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

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

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: c, Understand the Concepts, LO=2.6 Explain why the pituitary gland is known as the “master gland.”, (2)**

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APA=1.1

**TB\_02\_96\_Distant Connections: The Endocrine Glands Remember\_LO 2.6, APA 1.1**

Which endocrine gland controls all of the other endocrine glands?

a) thyroid

*Incorrect. The thyroid gland does not control other endocrine glands.*

b) adrenal

c) thymus

d) pituitary

*Correct. The pituitary gland controls all other endocrine glands.*

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: d, Remember the Facts, LO=2.6 Explain why the pituitary gland is known as the “master gland.”, (1)**

APA=1.1

**TB\_02\_97\_Distant Connections: The Endocrine Glands Remember\_LO 2.6, APA 1.1**

Which hormone has been dubbed the "love hormone" because of its role in bonding and affection between people?

a) oxytocin

*Correct. The role of oxytocin in bonding has been a very popular topic in research.*

b) progesterone

c) thyroxin

d) estrogen

*Incorrect. This is a primary female hormone, but not the best answer.*

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: a, Remember the Facts, LO=2.6 Explain why the pituitary gland is known as the “master gland.”, (2)**

APA=1.1

## Other Endocrine Glands

**Learning Objective 2.7** - Recall the role of various endocrine glands.

**TB\_02\_98\_Distant Connections: The Endocrine Glands Remember\_LO 2.7, APA 1.1**

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.*

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: a, Remember the Facts, LO=2.7 Recall the role of various endocrine glands., (3)**

**% correct 59 a= 59 b= 12 c= 8 d= 21 r = .42**

APA=1.1

**TB\_02\_99\_Distant Connections: The Endocrine Glands Remember\_LO 2.7, APA 1.1**

Endocrine glands \_\_\_\_\_.

a) secrete hormones directly into the bloodstream

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*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

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: a, Remember the Facts, LO=2.7 Recall the role of various endocrine glands., (1)**

**% correct 91 a= 91 b= 5 c= 2 d= 2 r = .56**

**APA=1.1**

**TB\_02\_100\_Distant Connections: The Endocrine Glands\_Remember\_LO 2.7, APA 1.1**

The hormone released by the pineal gland that reduces body temperature and prepares you for sleep is \_\_\_\_\_.

- a) melatonin

*Correct. The pineal gland secretes melatonin.*

- b) DHEA
- c) parathormone
- d) thyroxin

*Incorrect. The thyroid secretes thyroxin, which regulates metabolism.*

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: a, Remember the Facts, LO=2.7 Recall the role of various endocrine glands., (1)**

**APA=1.1**

**TB\_02\_101\_Distant Connections: The Endocrine Glands\_Apply\_LO 2.7, APA 1.1, 1.3**

Tim is overweight. His physician has decided to test him to see if there is a problem with the regulation of his \_\_\_\_\_. Which endocrine gland will be the focus of diagnostic testing?

- a) adrenal glands

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

- b) thymus
- c) thyroid

*Correct. The thyroid gland regulates metabolism.*

- d) pancreas

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: c, Apply What You Know, LO=2.7 Recall the role of various endocrine glands., (3)**

**APA=1.1; 1.3**

**TB\_02\_102\_Distant Connections: The Endocrine Glands\_Apply\_LO 2.7, APA 1.1, 1.3**

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) adrenal

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

- b) thymus
- c) thyroid
- d) pancreas

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

**TOPIC: Distant Connections: The Endocrine Glands**

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**ANS: d, Apply What You Know, LO=2.7 Recall the role of various endocrine glands., (3)**  
**APA=1.1; 1.3**

**TB\_02\_103\_Distant Connections: The Endocrine Glands Remember\_LO 2.7, APA 1.1**

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

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: b, Remember the Facts, LO=2.7 Recall the role of various endocrine glands., (1)**

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

**APA=1.1**

**TB\_02\_104\_Distant Connections: The Endocrine Glands Remember\_LO 2.7, APA 1.1**

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
- c) thyroid gland
- d) pancreas

*Incorrect. The pancreas is primarily responsible for regulation of glucose in the blood.*

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: a, Remember the Facts, LO=2.7 Recall the role of various endocrine glands., (1)**

**APA=1.1**

**TB\_02\_105\_Distant Connections: The Endocrine Glands Apply\_LO 2.7, APA 1.1, 1.3**

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 circumstance would result in a change in production of estrogen.*

- c) more cortisol

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

- d) less cortisol

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: c, Apply What You Know, LO=2.7 Recall the role of various endocrine glands., (3)**

**APA=1.1; 1.3**

## Looking Inside the Living Brain

### Methods for Studying Specific Regions of the Brain

Ciccarelli Psychology Test Bank

**Learning Objective 2.8** - Describe how lesioning studies and brain stimulation are used to study the brain.

**TB\_02\_106\_Looking Inside the Living Brain\_Remember\_LO 2.8, APA 1.1**

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) lesioning

*Correct. Lesioning destroys brain cells.*

- b) ESB

*Incorrect. ESB stimulates brain cells.*

- c) EEG

- d) CT scanning

**TOPIC: Looking Inside the Living Brain**

**ANS: a, Remember the Facts, LO=2.8 Describe how lesioning studies and brain stimulation are used to study the brain., (1)**

**APA=1.1**

**TB\_02\_107\_Looking Inside the Living Brain\_Understand\_LO 2.8, APA 2.4**

In order to study parts of an animal's brain, researchers may sometimes 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) lesioning

*Correct. Lesioning destroys brain cells.*

- b) ESB

*Incorrect. ESB stimulates brain cells.*

- c) EEG

- d) CT scan

**TOPIC: Looking Inside the Living Brain**

**ANS: a, Understand the Concepts, LO=2.8 Describe how lesioning studies and brain stimulation are used to study the brain., (2)**

**APA=2.4**

**Neuroimaging Techniques**

**Learning Objective 2.9** - Compare and contrast neuroimaging techniques for mapping the structure and function of the brain.

**TB\_02\_108\_Looking Inside the Living Brain\_Remember\_LO 2.9, APA 2.4**

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.*

**TOPIC: Looking Inside the Living Brain**

Ciccarelli Psychology Test Bank

**ANS: d, Remember the Facts, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (3)**

**% correct 30 a= 16 b= 42 c= 11 d= 30 r = .30**

**APA=2.4**

**TB\_02\_109\_Looking Inside the Living Brain\_Apply\_LO 2.9, APA 2.4**

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.*

**TOPIC: Looking Inside the Living Brain**

**ANS: d, Apply What You Know, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (3)**

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

**APA=2.4**

**TB\_02\_110\_Looking Inside the Living Brain\_Apply\_LO 2.9, APA 2.4**

If Mindy's doctor has taken a series of images of her brain using X-rays, then she has 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

**TOPIC: Looking Inside the Living Brain**

**ANS: c, Apply What You Know, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (3)**

**APA=2.4**

**TB\_02\_111\_Looking Inside the Living Brain\_Understand\_LO 2.9, APA 2.4**

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.*

**TOPIC: Looking Inside the Living Brain**

**ANS: b, Understand the Concepts, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (2)**

**APA=2.4**

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**TB\_02\_112\_Looking Inside the Living Brain\_Remember\_LO 2.9, APA 2.4**

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.*

**TOPIC: Looking Inside the Living Brain**

**ANS: b, Remember the Facts, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (2)**

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

**% correct 81 a= 17 b= 81 c= 0 d= 2 r = .29**

**APA=2.4**

**TB\_02\_113\_Looking Inside the Living Brain\_Apply\_LO 2.9, APA 2.4**

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)

**TOPIC: Looking Inside the Living Brain**

**ANS: b, Apply What You Know, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (1)**

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

**APA=2.4**

**TB\_02\_114\_Looking Inside the Living Brain\_Apply\_LO 2.9, APA 2.4**

Small metal disks are pasted onto Miranda's scalp and they are 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

*Correct. Electroencephalograms record brain wave patterns.*

**TOPIC: Looking Inside the Living Brain**

**ANS: d, Apply What You Know, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (1)**

**% correct 81 a= 10 b= 5 c= 4 d= 81 r = .35**

**APA=2.4**

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**TB\_02\_115\_Looking Inside the Living Brain\_Remember\_LO 2.9, APA 2.4**

Which of the following is a machine designed to record the brain wave patterns produced by electrical activity of the brain's cortex, just below the scalp?

- a) deep lesioning
- b) ESB

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

- c) EEG

*Correct. EEG records brain wave patterns.*

- d) CT scan

**TOPIC: Looking Inside the Living Brain**

**ANS: c, Remember the Facts, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (2)**

**APA=2.4**

**TB\_02\_116\_Looking Inside the Living Brain\_Remember\_LO 2.9, APA 2.4**

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
- c) microelectrode
- d) electroencephalograph

*Correct. Electroencephalographs monitor brain waves.*

**TOPIC: Looking Inside the Living Brain**

**ANS: d, Remember the Facts, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (3)**

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

**APA=2.4**

**TB\_02\_117\_Looking Inside the Living Brain\_Apply\_LO 2.9, APA 2.4**

Which of the following statements would BEST describe a person who was experiencing a brain analysis technique called magnetoencephalography (MEG)?

- a) The patient wears a helmet-like device during the procedure.

*Correct. MEG involves a helmet that contains devices that are highly sensitive to magnetic fields.*

- b) The patient would be injected with a radioactive tracer that is relatively easily to obtain.

*Incorrect. This would be a description of SPECT.*

- c) The patient would have several small electrodes attached to their scalp.

- d) The patient would be slid into a tube where a large magnet would circle around them for an extended period of time.

**TOPIC: Looking Inside the Living Brain**

**ANS: a, Apply What You Know, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (3)**

**APA=2.4**

**TB\_02\_118\_Looking Inside the Living Brain\_Remember\_LO 2.9, APA 2.4**

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?

Ciccarelli Psychology Test Bank

- 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.*

**TOPIC: Looking Inside the Living Brain**

**ANS: c, Remember the Facts, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (3)**

**% correct 48 a= 25 b= 12 c= 48 d= 13 r = .37**

**APA=2.4**

**TB\_02\_119\_Looking Inside the Living Brain\_Apply\_LO 2.9, APA 2.4**

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

**TOPIC: Looking Inside the Living Brain**

**ANS: a, Apply What You Know, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (2)**

**APA=2.4**

**TB\_02\_120\_Looking Inside the Living Brain\_Apply\_LO 2.9, APA 2.4**

Marika needs to have a neuroimaging test that will track the activity of her brain, but wants to use a radioactive tracer that is more easily obtained than those used for PET. Which of the following offers the BEST alternative based on Marika's needs?

- 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 this stated benefit over PET scans.*

**TOPIC: Looking Inside the Living Brain**

**ANS: d, Apply What You Know, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (2)**

**APA=2.4**

**TB\_02\_121\_Looking Inside the Living Brain\_Understand\_LO 2.9, APA 2.4**

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 obtain than PET.

*Correct. SPECT allows the use of tracers that can be more easily obtained than those used in PET scans.*

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- c) SPECT allows the monitoring of actual brain activity, while PET does not.
- d) SPECT offers the monitoring of brain oxygen changes, while PET does not.

*Incorrect. Both PET and SPECT can track changes in brain oxygenation levels.*

**TOPIC: Looking Inside the Living Brain**

**ANS: b, Understand the Concepts, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (2)**

**APA=2.4**

**TB\_02\_122\_Looking Inside the Living Brain\_Apply\_LO 2.9, APA 2.4**

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. An fMRI takes MRI images and combines them into a moving image of the brain.*

**TOPIC: Looking Inside the Living Brain**

**ANS: d, Apply What You Know, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (3)**

**% correct 40 a= 25 b= 18 c= 15 d= 40 r = .20**

**APA=2.4**

## From the Bottom Up: The Structures of the Brain

### The Hindbrain

**Learning Objective 2.10** - Identify the different structures of the hindbrain and the function of each.

**TB\_02\_123\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.10, APA 1.1**

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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: d, Remember the Facts, LO=2.10 Identify the different structures of the hindbrain and the function of each., (3)**

**APA=1.1**

**TB\_02\_124\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.10, APA 1.1**

The \_\_\_\_\_ is a structure in the brain stem responsible for life-sustaining functions, such as breathing and heart rate.

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- 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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Remember the Facts, LO=2.10 Identify the different structures of the hindbrain and the function of each., (3)**

**% correct 59 a= 3 b= 19 c= 59 d= 18 r = .27**

**% correct 60 a= 3 b= 14 c= 60 d= 22 r = .22**

**APA=1.1**

**TB\_02\_125\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.10, APA 1.1, 1.3**

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) pons

*Incorrect. The pons plays a role in sleep, dreaming, left-right body coordination, and arousal.*

- b) medulla

*Correct. The medulla is responsible for breathing.*

- c) cerebellum

- d) reticular formation

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Apply What You Know, LO=2.10 Identify the different structures of the hindbrain and the function of each., (3)**

**% correct 48 a= 10 b= 48 c= 37 d= 5 r = .22**

**APA=1.1; 1.3**

**TB\_02\_126\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.10, APA 1.1**

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 called 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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Remember the Facts, LO=2.10 Identify the different structures of the hindbrain and the function of each., (2)**

**APA=1.1**

**TB\_02\_127\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.10, APA 1.1**

The \_\_\_\_\_ is a structure in the brain stem that plays a role in sleep, dreaming, left-right body coordination, and arousal.

- a) reticular activating system

- b) pons

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*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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Remember the Facts, LO=2.10 Identify the different structures of the hindbrain and the function of each., (3)**

**APA=1.1**

**TB\_02\_128 From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.10, APA 1.1, 1.3**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Apply What You Know, LO=2.10 Identify the different structures of the hindbrain and the function of each., (3)**

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

**% correct 41 a= 31 b= 41 c= 12 d= 16 r = .47**

**APA=1.1; 1.3**

**TB\_02\_129 From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.10, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO=2.10 Identify the different structures of the hindbrain and the function of each., (2)**

**APA=1.1**

**TB\_02\_130 From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.10, APA 1.1, 1.3**

Since Jessica suffered a head injury in a car accident three 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 was most likely affected during the car accident, which is related to her problem dreaming?

- a) pons

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

Ciccarelli Psychology Test Bank

- b) cerebellum
- c) cerebral cortex
- d) pituitary gland

*Incorrect. The correct answer is the pons.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO=2.10 Identify the different structures of the hindbrain and the function of each., (3)**

**% correct 46 a= 46 b= 22 c= 32 d= 1 r = .40**

**APA=1.1; 1.3**

**TB\_02\_131\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.10, APA 1.1**

What is the main function of the reticular formation?

- a) to control thinking
- b) to regulate emotions
- c) to control levels of alertness and arousal

*Correct. The reticular formation controls levels of alertness and arousal.*

- d) to coordinate involuntary rapid fine-motor movements.

*Incorrect. This is the role of the cerebellum.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Remember the Facts, LO=2.10 Identify the different structures of the hindbrain and the function of each., (3)**

**% correct 37 a= 3 b= 30 c= 37 d= 30 r = .20**

**APA=1.1**

**TB\_02\_132\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.10, APA 1.1, 1.3**

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, which has been linked to the \_\_\_\_\_ part of the brain.

- a) reticular formation

*Correct. Research has shown that the RF 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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO=2.10 Identify the different structures of the hindbrain and the function of each., (3)**

**APA=1.1; 1.3**

**TB\_02\_133\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.10, APA 1.1, 1.3**

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.*

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- b) pons

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

- c) medulla
- d) cerebellum

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO=2.10 Identify the different structures of the hindbrain and the function of each., (2)**

**APA=1.1; 1.3**

**TB\_02\_134 From the Bottom Up: The Structures of the Brain Remember LO 2.10, APA 1.1**

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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Remember the Facts, LO=2.10 Identify the different structures of the hindbrain and the function of each., (2)**

**% correct 65 a= 4 b= 14 c= 65 d= 17 r = .25**

**APA=1.1**

**TB\_02\_135 From the Bottom Up: The Structures of the Brain Remember LO 2.10, APA 1.1**

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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: d, Remember the Facts, LO=2.10 Identify the different structures of the hindbrain and the function of each., (1)**

**APA=1.1**

**TB\_02\_136 From the Bottom Up: The Structures of the Brain Apply LO 2.10, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO=2.10 Identify the different structures of the hindbrain and the function of each., (3)**

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APA=1.1

**TB\_02\_137\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.10, APA 1.1, 1.3**

Tracey has been unable to participate in her gymnastics class and has become 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 \_\_\_\_\_.

cerebellum

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

medulla

cerebral cortex

hypothalamus

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO=2.10 Identify the different structures of the hindbrain and the function of each., (2)**

APA=1.1; 1.3

**TB\_02\_138\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.10, APA 1.1**

If your \_\_\_\_\_ was damaged, you might walk oddly and have trouble standing normally.

a) pons

b) medulla

*Incorrect. The medulla 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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Apply What You Know, LO=2.10 Identify the different structures of the hindbrain and the function of each., (2)**

APA=1.1

**TB\_02\_139\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.10, APA 1.1, 1.3**

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 called the \_\_\_\_\_.

hippocampus

amygdala

cerebellum

*Correct. This is the part of the brain that is affected by this disease.*

cerebral cortex

*Incorrect. This is not the part of the brain that is affected.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Apply What You Know, LO=2.10 Identify the different structures of the hindbrain and the function of each., (2)**

APA=1.1; 1.3

**Structures Under the Cortex: The Limbic System**

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**Learning Objective 2.11** - Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.

**TB\_02\_140\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.11, APA 1.1**

Which of the following is a group of several brain structures located primarily under the cortex and is 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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (3)**

**APA=1.1**

**TB\_02\_141\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.11, APA 1.1**

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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Remember the Facts, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (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**

**APA=1.1**

**TB\_02\_142\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.11, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Remember the Facts, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (3)**

**% correct 48 a= 19 b= 48 c= 25 d= 8 r = .53**

**% correct 48 a= 22 b= 48 c= 22 d= 8 r = .48**

**APA=1.1**

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**TB\_02\_143\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.11, APA 1.1**

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 of the sense of smell go directly into special parts of the brain called olfactory bulbs, which are the structures responsible for smell.*

- c) taste

*Incorrect. Signals from the neurons involved in taste are sent to the cortex by the thalamus.*

- d) vision

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Remember the Facts, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (2)**

**APA=1.1**

**TB\_02\_144\_From the Bottom Up: The Structures of the Brain\_Analyze\_LO 2.11, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Analyze It, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (2)**

**APA=1.1**

**TB\_02\_145\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.11, APA 1.1, 1.3**

Jerry loves the smell of the grass after it rains. This is a result of his \_\_\_\_\_, which has/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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Apply What You Know, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (2)**

**% correct 75 a= 14 b= 75 c= 0 d= 12 r = .43**

**APA=1.1; 1.3**

**TB\_02\_146\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.11, APA 1.1**

Which part of the brain is very small but extremely powerful and controls the pituitary gland?

- a) hippocampus

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- 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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Remember the Facts, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (2)**

**APA=1.1**

**TB\_02\_147\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.11, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Remember the Facts, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (3)**

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

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

**APA=1.1**

**TB\_02\_148\_From the Bottom Up: The Structures of the Brain\_Understand\_LO 2.11, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Understand the Concepts, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (2)**

**APA=1.1**

**TB\_02\_149\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.11, APA 1.1**

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

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d) amygdala

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (2)**

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

**APA=1.1**

**TB\_02\_150 From the Bottom Up: The Structures of the Brain Apply LO 2.11, APA 1.1**

If you have a problem remembering things that happened a year ago, doctors might check for damage to the area of the brain called 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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (2)**

**APA=1.1**

**TB\_02\_151 From the Bottom Up: The Structures of the Brain Remember LO 2.11, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (3)**

**APA=1.1**

**TB\_02\_152 From the Bottom Up: The Structures of the Brain Remember LO 2.11, APA 1.1**

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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: d, Remember the Facts, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (3)**

**% correct 37 a= 3 b= 51 c= 8 d= 37 r = .29**

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APA=1.1

**TB\_02\_153\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.11, APA 1.1**

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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: d, Remember the Facts, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (3)**

**% correct 49 a= 27 b= 23 c= 1 d= 49 r = .52**

APA=1.1

**TB\_02\_154\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.11, APA 1.1, 1.3**

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 he 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 is a result of the \_\_\_\_\_ in the limbic system.

- a) hippocampus
- b) thalamus
- c) amygdala

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

- d) medulla

*Incorrect. The correct answer is the amygdala.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Apply What You Know, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (3)**

APA=1.1; 1.3

**TB\_02\_155\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.11, APA 1.1, 1.3**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Apply What You Know, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (2)**

APA=1.1; 1.3

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**The Cortex**

**Learning Objective 2.12** - Identify the parts of the cortex that process the different senses and those that control movement of the body.

**TB\_02\_156\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, APA 1.1**

The outermost part of the brain, made up of tightly packed neurons and 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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: d, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (1)**

**APA=1.1**

**TB\_02\_157\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, APA 1.1**

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 callosums

- d) neurotransmitters

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (1)**

**% correct 91 a= 91 b= 3 c= 5 d= 0 r = .29**

**APA=1.1**

**TB\_02\_158\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (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**

**APA=1.1**

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**TB\_02\_159\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body, (1)**

**APA=1.1**

**TB\_02\_160\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.12, APA 1.1, 1.3**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (2)**

**APA=1.1; 1.3**

**TB\_02\_161\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (1)**

**% correct 82 a= 82 b= 4 c= 14 d= 0 r = .47**

**APA=1.1**

**TB\_02\_162\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, APA 1.1**

The part of the occipital lobe that is responsible for receiving visual information from the eyes is called the \_\_\_\_\_.

- a) primary visual cortex

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*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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (2)**

**% correct 74 a= 74 b= 18 c= 8 d= 3 r = .30**

**% correct 79 a= 79 b= 14 c= 5 d= 2 r = .36**

**APA=1.1**

**TB\_02\_163\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (1)**

**APA=1.1**

**TB\_02\_164\_From the Bottom Up: The Structures of the Brain\_Understand\_LO 2.12, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Understand the Concepts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (3)**

**% correct 20 a= 20 b= 26 c= 36 d= 19 r = .30**

**APA=1.1**

**TB\_02\_165\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.12, APA 1.1, 1.3**

John has decided to start to learn how to wrestle. On 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 a result of “seeing stars,” John’s \_\_\_\_\_ was temporarily affected as a result of the slam.

- a) corpus callosum
- b) occipital lobe

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*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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Apply What You Know, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (3)**

**% correct 92 a= 2 b= 92 c= 3 d= 3 r = .34**

**APA=1.1; 1.3**

**TB\_02\_166 From the Bottom Up: The Structures of the Brain Remember LO 2.12, APA 1.1**

Which of the following regions contains the somatosensory cortex?

- a) occipital lobe

*Incorrect. This region contains the primary visual cortex.*

- b) parietal lobe

*Correct. The parietal lobes contain the somatosensory cortex.*

- c) temporal lobe

- d) frontal lobe

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (2)**

**APA=1.1**

**TB\_02\_167 From the Bottom Up: The Structures of the Brain Remember LO 2.12, APA 1.1**

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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: d, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (3)**

**APA=1.1**

**TB\_02\_168 From the Bottom Up: The Structures of the Brain Apply LO 2.12, APA 1.1, 1.3**

Al is trying to decide whether the shower is hot enough to step in. Hal is listening to his MP3 player. 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.

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**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (3)**

**APA=1.1; 1.3**

**TB\_02\_169\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.12, APA 1.1, 1.3**

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 lobe
- b) temporal lobe

*Incorrect. The temporal lobes are responsible for the sense of hearing and meaningful speech, not touch.*

- c) occipital lobe
- d) parietal lobes

*Correct. The parietal lobes contain the centers for touch, taste, and temperature.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: d, Apply What You Know, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (2)**

**% correct 65 a= 20 b= 11 c= 4 d= 65 r = .30**

**% correct 62 a= 18 b= 16 c= 5 d= 62 r = .32**

**APA=1.1; 1.3**

**TB\_02\_170\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (2)**

**% correct 63 a= 63 b=7 c= 22 d= 7 r = .44**

**APA=1.1**

**TB\_02\_171\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (2)**

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% correct 72 a= 72 b= 15 c= 8 d= 5 r = .51

% correct 79 a= 79 b= 12 c= 4 d= 5 r = .40

APA=1.1

**TB\_02\_172\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.12, APA 1.1, 1.3**

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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Apply What You Know, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (3)**

APA=1.1; 1.3

**TB\_02\_173\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.12, APA 1.1, 1.3**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Apply What You Know, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (3)**

% correct 64 a= 10 b= 21 c= 64 d= 5 r = .42

% correct 66 a= 8 b= 26 c= 66 d= 1 r = .38

APA=1.1; 1.3

**TB\_02\_174\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and**

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**those that control movement of the body., (2)**

**% correct 70 a= 11 b= 0 c= 70 d= 18 r = .30**

**% correct 70 a= 10 b= 2 c= 70 d= 18 r = .34**

**APA=1.1**

**TB\_02\_175\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.12, APA 1.1, 1.2, 1.3**

Joella was rollerblading when a cat jumped right in front of her, causing her to trip and fall. When she fell, she partially landed on the front side of her head near her forehead. Shortly afterward, Joella exhibited symptoms similar to that of Phineas Gage. Which lobe would have been most affected by this fall?

a) frontal

*Correct. Phineas Gage suffered extreme trauma to the frontal lobe of his brain, impacting all sorts of functions, including his personality.*

b) temporal

*Incorrect. The famous story of Phineas Gage gave us insight into the functioning of the frontal lobe of the brain.*

c) parietal

d) occipital

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (2)**

**APA=1.1; 1.2; 1.3**

**TB\_02\_176\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.12, APA 1.2**

Phineas Gage tragically had a tamping iron propelled through his head. Both left and right sides of the prefrontal cortex were severely damaged. As a result of the accident, Phineas Gage:

a) died from his injuries.

b) suffered loss of his arms and legs.

c) lost his sense of hearing.

*Incorrect. Hearing is handled by the temporal lobe, not the frontal lobe of the brain.*

d) suffered a change in personality.

*Correct. After Phineas Gage's accident, his personality changed dramatically.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: d, Apply What You Know, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (1)**

**APA=1.2**

**TB\_02\_177\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.12, APA 1.1, 1.3**

Ito was driving through a rough part of town late at night when a stray bullet hit the front side of his head. Both the left and right sides of his prefrontal cortex were severely damaged. As a result of the accident, Ito most likely:

a) died from his injuries.

*Incorrect. Gage did not die as a result of the accident.*

b) suffered loss of his arms and legs.

c) lost his sense of hearing.

d) suffered a change in personality.

*Correct. Personality changes could be a result of damage to the frontal lobes of the brain, as in the famous case of Phineas Gage.*

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**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: d, Apply What You Know, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (2)**

**APA=1.1; 1.3**

**TB\_02\_178\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.12, APA 1.1, 1.3**

Ever since he suffered a brain injury by falling from a ladder, Zack's wife has continued to tell the doctor that his personality has changed. He used to be fun loving and carefree, but he is now more critical and yells at his children for seemingly little reason. Zack is likely to have suffered damage to the \_\_\_\_\_ of his cortex.

- a) occipital lobe

*Incorrect. If his vision were affected, this would be accurate.*

- b) parietal lobe
- c) temporal lobe
- d) frontal lobe

*Correct. The frontal lobes are connected to personality and decision-making processes.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: d, Apply What You Know, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (3)**

**APA=1.1; 1.3**

**TB\_02\_179\_From the Bottom Up: The Structures of the Brain\_Understand\_LO 2.12, APA 1.1**

\_\_\_\_\_ 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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Understand the Concepts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (3)**

**APA=1.1**

**TB\_02\_180\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.12, APA 1.1, 1.3**

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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Apply What You Know, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (1)**

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% correct 82 a= 0 b= 82 c= 5 d= 11 r = .36  
APA=1.1; 1.3

**TB\_02\_181\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, APA 1.1**

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 glands begin their journey in the motor cortex.*

- c) association areas
- d) somatosensory cortex

*Incorrect. This area is not involved with muscles and glands.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (2)**

APA=1.1

**The Association Areas of the Cortex**

**Learning Objective 2.13** - Name the parts of the cortex that are responsible for higher forms of thought, such as language.

**TB\_02\_182\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.13, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Remember the Facts, LO=2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language., (3)**

% correct 41 a= 20 b= 14 c= 41 d= 25 r = .49

APA=1.1

**TB\_02\_183\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.13, APA 1.1**

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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO=2.13 Name the parts of the cortex that are responsible for higher forms of**

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thought, such as language., (2)

% correct 74 a= 74 b= 3 c= 19 d= 4 r = .31

% correct 73 a= 73 b= 3 c= 21 d= 4 r = .27

APA=1.1

**TB\_02\_184\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.13, APA 1.1, 1.3**

Bill was admitted to the hospital last week after he fell. When Bill's son visited, he found that 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

*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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO=2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language., (2)**

% correct 75 a= 75 b= 2 c= 22 d= 2 r = .35

APA=1.1; 1.3

**TB\_02\_185\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.13, APA 1.1**

The area at the back of the left 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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Remember the Facts, LO=2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language., (3)**

% correct 49 a= 37 b= 8 c= 49 d= 6 r = .35

APA=1.1

**TB\_02\_186\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.13, APA 1.1, 1.3**

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

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**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Apply What You Know, LO=2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language., (2)**

**APA=1.1; 1.3**

**TB\_02\_187\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.13, APA 1.1, 1.3**

Robert's mother is usually meticulous in her presentation. When picking her up for a family dinner, he noticed that her makeup 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 were affected, this could be the possible cause.*

- c) 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

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Apply What You Know, LO=2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language., (3)**

**APA=1.1; 1.3**

**The Cerebral Hemispheres: Are You in Your Right Mind?**

**Learning Objective 2.14** - Explain how some brain functions differ between the left and right hemispheres.

**TB\_02\_188\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.14, APA 1.1**

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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Remember the Facts, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (3)**

**% correct 41 a= 2 b= 41 c= 40 d= 18 r = .35**

**APA=1.1**

**TB\_02\_189\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.14, APA 1.1**

Since Norma is a split-brain patient, we can infer that she likely has a history of \_\_\_\_\_.

- a) mental illness
- b) severe epilepsy

*Correct. Severe epilepsy is one of the very few medical conditions that is treated by using a split-brain procedure.*

- c) anosognosia
- d) frontal lobe damage

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*Incorrect. Split-brain procedures are not used to treat frontal lobe damage; in fact, it would make no sense at all to use this procedure for this type of medical problem.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Apply What You Know, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (1)**

**APA=1.1**

**TB\_02\_190\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.14, APA 1.1, 1.3**

Pat has decided to undergo surgery to treat her severe epilepsy. Consequently, her doctors will use a surgical procedure in 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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Apply What You Know, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (2)**

**APA=1.1; 1.3**

**TB\_02\_191\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.14, APA 1.2**

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.”*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: d, Remember the Facts, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (1)**

**% correct 82 a= 11 b= 5 c= 2 d= 82 r = .38**

**APA=1.2**

**TB\_02\_192\_From the Bottom Up: The Structures of the Brain\_Understand\_LO 2.14, APA 1.1**

Traditionally, many have made the analogy that the left brain is to the right brain as \_\_\_\_\_.

- a) logical is to artistic

*Correct. Though recent research suggests that this analogy may not be completely accurate, it is what most people have believed about the brain for many years.*

- b) verbal is to analytical
- c) intuitive is to perceptual

*Incorrect. Traditionally, the left brain has been thought of as analytical, and the right brain has been thought of as perceptual.*

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- d) intuitive is to analytical

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Understand the Concepts, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (2)**

**APA=1.1**

**TB\_02\_193\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.14, APA 1.1**

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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: d, Apply What You Know, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (2)**

**APA=1.1**

**TB\_02\_194\_From the Bottom Up: The Structures of the Brain\_Understand\_LO 2.14, APA 1.1**

Which of the following is a function of the right hemisphere?

- a) perception, recognition of emotion, 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.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Understand the Concepts, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (2)**

**APA=1.1**

**TB\_02\_195\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.14, APA 1.1**

Which is NOT a specific function of the left hemisphere of the brain?

- a) spoken language
- b) written language
- c) mathematical calculations

*Incorrect. This is controlled by the left hemisphere.*

- d) pattern recognition

*Correct. This is controlled by the right hemisphere.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: d, Remember the Facts, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (1)**

**APA=1.1**

**TB\_02\_196\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.14, APA 1.1**

Which is NOT a specific function of the right hemisphere of the brain?

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- a) nonverbal
- b) analysis of detail

*Correct. This is controlled by the left hemisphere.*

- c) music and artistic expression
- d) emotional thought and recognition

*Incorrect. This is controlled by the right hemisphere.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: b, Remember the Facts, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (1)**

**APA=1.1**

**TB\_02\_197\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.14, APA 1.1, 1.3**

Adironke has recently been diagnosed with attention-deficit/hyperactivity disorder (ADHD). 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 bipolar disorder.*

- d) the corpus callosum

*Incorrect. The brain structure that joins the right and left hemispheres has been found to play a role in bipolar disorder.*

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: c, Apply What You Know, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (2)**

**APA=1.1; 1.3**

## Applying Psychology to Everyday Life

### Paying Attention to Attention-Deficit/Hyperactivity Disorder

**Learning Objective 2.15** - Identify some potential causes of attention-deficit/hyperactivity disorder

**TB\_02\_198\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.14, APA 1.1**

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. Some research suggests that some aspects of attention are actually normal in individuals with ADHD.*

- b) vigilance (watching out for something important)

*Incorrect. This is a problem for individuals with ADHD.*

- c) staying on-task

- d) engaging in self-control

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (3)**

**APA=1.1**

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**TRUE OR FALSE**

**TB\_02\_199\_Neurons and Nerves: Building the Network Remember\_LO 2.1, APA 1.1**

One function of the nervous system is to send information to and receive information from all parts of the body.

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: T, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (1)**  
**APA=1.1**

**TB\_02\_200\_Neurons and Nerves: Building the Network Remember\_LO 2.1, APA 1.1**

The axon receives messages from other neurons.

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: F, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (2)**  
**APA=1.1**

**TB\_02\_201\_Neurons and Nerves: Building the Network Remember\_LO 2.1, APA 1.1**

Glial cells provide structure for neurons.

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: T, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (3)**  
**APA=1.1**

**TB\_02\_202\_Neurons and Nerves: Building the Network Remember\_LO 2.1, APA 1.1**

Myelin not only insulates the neuron, it also slows down the neural message helping with transmission of messages traveling down the axon.

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: F, Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (1)**  
**APA=1.1**

**TB\_02\_203\_Neurons and Nerves: Building the Network Remember\_LO 2.2, APA 1.1**

A neuron's cell membrane is semipermeable.

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: T, Remember the Facts, LO=2.2 Explain the action potential., (2)**  
**APA=1.1**

**TB\_02\_204\_Neurons and Nerves: Building the Network Remember\_LO 2.2, APA 1.1**

Neurons that are at rest are still electrically charged.

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: T, Remember the Facts, LO=2.2 Explain the action potential., (1)**  
**APA=1.1**

**TB\_02\_205\_Neurons and Nerves: Building the Network Remember\_LO 2.2, APA 1.1**

During a resting potential, the neuron is positively charged inside and negatively charged outside.

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: F, Remember the Facts, LO=2.2 Explain the action potential., (3)**  
**APA=1.1**

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**TB\_02\_206\_Neurons and Nerves: Building the Network\_Understand\_LO 2.3, APA 1.1**

A synapse is like a locked door that only certain neurotransmitter keys can unlock.

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: F, Understand the Concepts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (1)**

**APA=1.1**

**TB\_02\_207\_Neurons and Nerves: Building the Network\_Remember\_LO 2.3, APA 1.1**

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.

**TOPIC: Neurons and Nerves: Building the Network**

**ANS: T, Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (3)**

**APA=1.1**

**TB\_02\_208\_An Overview of the Nervous System\_Remember\_LO 2.4, APA 1.1**

The central nervous system consists of the brain and spinal cord.

**TOPIC: An Overview of the Nervous System**

**ANS: T, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (1)**

**APA=1.1**

**TB\_02\_209\_An Overview of the Nervous System\_Remember\_LO 2.4, APA 1.1**

Motor neurons carry messages from special receptors in the skin, from muscles, and from sense organs to the spinal cord.

**TOPIC: An Overview of the Nervous System**

**ANS: F, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (1)**

**APA=1.1**

**TB\_02\_210\_An Overview of the Nervous System\_Remember\_LO 2.4, APA 1.1**

Interneurons connect sensory neurons to the motor neurons.

**TOPIC: An Overview of the Nervous System**

**ANS: T, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (2)**

**APA=1.1**

**TB\_02\_211\_An Overview of the Nervous System\_Remember\_LO 2.4, APA 1.1**

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.

**TOPIC: An Overview of the Nervous System**

**ANS: F, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (3)**

**APA=1.1**

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**TB\_02\_212\_An Overview of the Nervous System\_Remember\_LO 2.4, APA 1.1**

Stem cells can become other cells, such as blood cells, nerve cells, and brain cells.

**TOPIC: An Overview of the Nervous System**

**ANS: T, Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences., (2)**

**APA=1.1**

**TB\_02\_213\_An Overview of the Nervous System\_Remember\_LO 2.5, APA 1.1**

The somatic nervous system is made up of nerves carrying messages from the central nervous system to the muscles of the body.

**TOPIC: An Overview of the Nervous System**

**ANS: T, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (3)**

**APA=1.1**

**TB\_02\_214\_An Overview of the Nervous System\_Remember\_LO 2.5, APA 1.1**

Activation of the sympathetic nervous system leads to pupil dilation, inhibition of digestion, and an accelerated heartbeat.

**TOPIC: An Overview of the Nervous System**

**ANS: T, Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (1)**

**APA=1.1**

**TB\_02\_215\_Distant Connections: The Endocrine Glands\_Remember\_LO 2.7, APA 1.1**

Endocrine glands secrete chemicals directly into the body's tissues through specialized ducts.

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: F, Remember the Facts, LO=2.7 Recall the role of various endocrine glands., (1)**

**APA=1.1**

**TB\_02\_216\_Distant Connections: The Endocrine Glands\_Remember\_LO 2.7, APA 1.1**

The pineal gland secretes a hormone called insulin.

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: F, Remember the Facts, LO=2.7 Recall the role of various endocrine glands., (2)**

**APA=1.1**

**TB\_02\_217\_Distant Connections: The Endocrine Glands\_Remember\_LO 2.7, APA 1.1**

The thyroid gland secretes a hormone called thyroxin.

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: T, Remember the Facts, LO=2.7 Recall the role of various endocrine glands., (1)**

**APA=1.1**

**TB\_02\_218\_Distant Connections: The Endocrine Glands\_Remember\_LO 2.7, APA 1.1**

If the pancreas secretes too little insulin, the result is diabetes.

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: T, Remember the Facts, LO=2.7 Recall the role of various endocrine glands., (3)**

**APA=1.1**

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**TB\_02\_219\_Distant Connections: The Endocrine Glands\_Remember\_LO 2.7, APA 1.1**

If the body secretes too much insulin, the result is hyperglycemia.

**TOPIC: Distant Connections: The Endocrine Glands**

**ANS: F, Remember the Facts, LO=2.7 Recall the role of various endocrine glands., (3)**

**APA=1.1**

**TB\_02\_220\_Looking Inside the Living Brain\_Remember\_LO 2.9, APA 1.1**

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.

**TOPIC: Looking Inside the Living Brain**

**ANS: F, Remember the Facts, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (3)**

**APA=1.1**

**TB\_02\_221\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.10, APA 1.1**

The medulla is responsible for people's ability to selectively attend to certain kinds of information in their surroundings.

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: F, Remember the Facts, LO=2.10 Identify the different structures of the hindbrain and the function of each., (2)**

**APA=1.1**

**TB\_02\_222\_From the Bottom Up: The Structures of the Brain\_Apply\_LO 2.11, APA 1.1**

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.

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: F, Apply What You Know, LO=2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (2)**

**APA=1.1**

**TB\_02\_223\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, APA 1.1**

The cortex "wrinkles" as a result of fluid filling the brain over the lifespan.

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: F, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (3)**

**APA=1.1**

**TB\_02\_224\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, APA 1.1**

Researchers in the field of autism are considering that the condition is related to a faulty mirror system in the brain.

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: T, Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (3)**

**APA=1.1**

**TB\_02\_225\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.13, APA 1.1**

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The occipital lobes contain the visual cortex, where visual signals are processed.

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: T, Remember the Facts, LO=2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language., (1)**

**APA=1.1**

**TB\_02\_226\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.14, APA 1.1**

The cerebrum is divided into two hemispheres that control opposite sides of the body.

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: T, Remember the Facts, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (1)**

**APA=1.1**

**TB\_02\_227\_From the Bottom Up: The Structures of the Brain\_Understand\_LO 2.14, APA 1.1**

The cerebral cortex is severed in individuals who are considered to have a “split brain” after a surgery to stop epileptic seizures.

**TOPIC: From the Bottom Up: The Structures of the Brain**

**ANS: F, Understand the Concepts, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (2)**

**APA=1.1**

**SHORT ANSWER**

**TB\_02\_228\_Neurons and Nerves: Building the Network\_Remember\_LO 2.1, 2.2, APA 1.1**

List three main parts of the human neuron and explain the role each plays in the transmission of neural communication.

**TOPIC: Neurons and Nerves: Building the Network**

**Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each and LO=2.2 Explain the action potential., (2)**

**APA=1.1**

**TB\_02\_229\_Neurons and Nerves: Building the Network\_Remember\_LO 2.1, APA 1.1**

List two different functions of glial cells.

**TOPIC: Neurons and Nerves: Building the Network**

**Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each., (1)**

**APA=1.1**

**TB\_02\_230\_Neurons and Nerves: Building the Network\_Remember\_LO 2.3, APA 1.1**

What is a synapse?

**TOPIC: Neurons and Nerves: Building the Network**

**Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (1)**

**APA=1.1**

**TB\_02\_231\_Neurons and Nerves: Building the Network\_Remember\_LO 2.3, APA 1.1**

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What are neurotransmitters?

**TOPIC: Neurons and Nerves: Building the Network**

**Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (1)**

**APA=1.1**

**TB\_02\_232\_Neurons and Nerves: Building the Network\_Remember\_LO 2.3, APA 1.1**

Name three neurotransmitters and their functions.

**TOPIC: Neurons and Nerves: Building the Network**

**Remember the Facts, LO=2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (3)**

**APA=1.1**

**TB\_02\_233\_An Overview of the Nervous System\_Analyze\_LO 2.4, 2.5, APA 1.1**

Explain the difference between the Central Nervous System (CNS) and the Peripheral Nervous System (PNS).

**TOPIC: An Overview of the Nervous System**

**Analyze It, LO=2.4 Describe how the brain and spinal cord interact and respond to external experiences and LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (3)**

**APA=1.1**

**TB\_02\_234\_An Overview of the Nervous System\_Analyze\_LO 2.5, APA 1.1**

What is the difference between the sympathetic and parasympathetic nervous systems?

**TOPIC: An Overview of the Nervous System**

**Analyze It, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2)**

**APA=1.1**

**TB\_02\_235\_Distant Connections: The Endocrine Glands\_Remember\_LO 2.7, APA 1.1**

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.

**TOPIC: Distant Connections: The Endocrine Glands**

**Remember the Facts, LO=2.7 Recall the role of various endocrine glands., (3)**

**APA=1.1**

**TB\_02\_236\_Looking Inside the Living Brain\_Remember\_LO 2.9, APA 1.1, 2.4**

How does an MRI (magnetic resonance imaging) scan allow the exploration of the brain without the injection of chemicals? What is the difference between a traditional MRI and MRI spectroscopy?

**TOPIC: Looking Inside the Living Brain**

**Remember the Facts, LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (3)**

**APA=1.1; 2.4**

**TB\_02\_237\_From the Bottom Up: The Structures of the Brain\_Understand\_LO 2.12 APA 1.1**

Why is the cortex in the brain so wrinkled?

**TOPIC: From the Bottom Up: The Structures of the Brain**

**Understand the Concepts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (2)**

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APA=1.1

**TB\_02\_238\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.13, APA 1.1**

What are the symptoms of Broca's aphasia?

**TOPIC: From the Bottom Up: The Structures of the Brain**

**Remember the Facts, LO=2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language., (3)**

APA=1.1

**TB\_02\_239\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.13, APA 1.1**

What are the symptoms of Wernicke's aphasia?

**TOPIC: From the Bottom Up: The Structures of the Brain**

**Remember the Facts, LO=2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language., (3)**

APA=1.1

**TB\_02\_240\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.14, APA 1.2**

Briefly explain Roger Sperry's split-brain research.

**TOPIC: From the Bottom Up: The Structures of the Brain**

**Remember the Facts, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (2)**

APA=1.2

**TB\_02\_241\_From the Bottom Up: The Structures of the Brain\_Analyze\_LO 2.14, APA 1.1**

What are the differences in how the right and left cerebral hemispheres function?

**TOPIC: From the Bottom Up: The Structures of the Brain**

**Analyze It, LO=2.14 Explain how some brain functions differ between the left and right hemispheres., (2)**

APA=1.1

## ESSAY

**TB\_02\_242\_Neurons and Nerves: Building the Network\_Remember\_LO 2.1, 2.2, APA 1.1**

What is a neuron? Describe the major 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.

**TOPIC: Neurons and Nerves: Building the Network**

**Remember the Facts, LO=2.1 Identify the parts of a neuron and the function of each and LO=2.2 Explain the action potential., (2)**

APA=1.1

**TB\_02\_243\_An Overview of the Nervous System\_Remember\_LO 2.4, APA 1.1**

Describe the functions of the brain and the spinal cord. How are these functions similar? How are these functions dissimilar?

**TOPIC: An Overview of the Nervous System**

**Remember the Facts, LO=2.4 Describe how the brain and spinal cord interact and respond to external**

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experiences., (1)  
APA=1.1

**TB\_02\_244\_An Overview of the Nervous System\_Remember\_LO 2.5, APA 1.1**

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.

**TOPIC: An Overview of the Nervous System**

**Remember the Facts, LO=2.5 Differentiate the roles of the somatic and autonomic nervous systems., (1)**  
APA=1.1

**TB\_02\_245\_Distant Connections: The Endocrine Glands\_Remember\_LO 2.6, 2.7, APA 1.1**

How does the endocrine system influence behavior? Describe the functions of three glands and the hormones each secretes.

**TOPIC: Distant Connections: The Endocrine Glands**

**Remember the Facts, LO=2.6 Explain why the pituitary gland is known as the “master gland” and LO=2.7 Recall the role of various endocrine glands., (2)**  
APA=1.1

**TB\_02\_246\_Looking Inside the Living Brain\_Apply\_LO 2.8, 2.9, APA 1.1**

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.

**TOPIC: Looking Inside the Living Brain**

**Apply What You Know, LO=2.8 Describe how lesioning studies and brain stimulation are used to study the brain and LO=2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (3)**  
APA=2.4

**TB\_02\_247\_From the Bottom Up: The Structures of the Brain\_Remember\_LO 2.12, 2.13, APA 1.1**

Identify the four lobes of the cerebral cortex and identify the major functions that are controlled by each of them.

**TOPIC: From the Bottom Up: The Structures of the Brain**

**Remember the Facts, LO=2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body and LO=2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language., (2)**  
APA=1.1

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## Test Yourself

*Pick the best answer.*

1. In the structure of the neuron, the \_\_\_\_\_ receives messages from other cells.
  - a. axon
  - b. dendrite
  - c. soma
  - d. myelin
2. Oligodendrocytes and Schwann cells generate a fatty substance known as \_\_\_\_\_.
  - a. glial
  - b. soma
  - c. myelin
  - d. neurilemma.
3. Which of the following insulates and protects a neuron's axon, as well as helps speed along electrical impulses?
  - a. synaptic knobs
  - b. receptor sites
  - c. myelin sheath
  - d. neuromodulators
4. When a neuron is in the resting potential state, the neuron is negatively charged on the \_\_\_\_\_ and positively charged on the \_\_\_\_\_.
  - a. inside; outside
  - b. outside; inside
  - c. top; bottom
  - d. bottom; top
5. Which neurotransmitter stimulates muscle cells to contract but slows contractions in the heart?
  - a. acetylcholine
  - b. GABA
  - c. serotonin
  - d. endorphin
6. Heroin mimics the actions of endorphins, inhibiting pain signals and creating a "high" feeling. Heroin is an example of a(n) \_\_\_\_\_.
  - a. protagonist
  - b. antagonist
  - c. agonist
  - d. glial cell
7. Involuntary muscles are controlled by the \_\_\_\_\_ nervous system.
  - a. somatic

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- b. autonomic
- c. sympathetic
- d. parasympathetic

8. As you take notes, your heart beats at a normal rate. Your breathing is normal and your stomach slowly digests your earlier meal. What division of the peripheral nervous system is currently in action?

- a. sympathetic
- b. parasympathetic
- c. autonomic
- d. somatic

9. Robert has had difficulty sleeping for the past 6 months, and his body seemingly no longer differentiates between night and day. His doctor believes the problem lies with Robert's endocrine system. What gland will Robert's physician focus on?

- a. pituitary
- b. adrenal
- c. thyroid
- d. pineal

10. Which gland(s) is/are known to influence all other glands within the endocrine system?

- a. pineal gland
- b. pituitary gland
- c. thyroid gland
- d. adrenal glands

11. Bailey is a subject in a study on memory and problem solving. The researcher is applying magnetic pulses to her brain through copper wire coils positioned directly above her scalp. Bailey's study would BEST be described as a(n)

- a. invasive stimulation technique.
- b. noninvasive stimulation technique.
- c. EEG technique.
- d. PET technique.

12. Which technique of studying the brain involves injecting the patient with radioactive glucose?

- a. EEG
- b. CT
- c. MRI
- d. PET

13. Maria often sleeps soundly and rarely awakens to any outside noise. However, the cries of Maria's baby can awaken her immediately. What part of the brain is responsible for this reaction?

- a. medulla
- b. pons
- c. reticular formation
- d. cerebellum

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14. Nicole and Camille are synchronized swimmers for their college swim team. They often work long hours to ensure the movements in their routine are perfectly timed. What part of their brains must Camille and Nicole rely most upon?
- a. medulla
  - b. pons
  - c. reticular formation
  - d. cerebellum
15. Your psychology professor refers to this as the great relay station of the brain. What part is he or she referring to?
- a. thalamus
  - b. hypothalamus
  - c. hippocampus
  - d. amygdala
16. Which part of the brain is involved in the creation of memories and is often linked to Alzheimer's disease?
- a. hippocampus
  - b. thalamus
  - c. hypothalamus
  - d. amygdala
17. Jessica suffered a severe blow to the back of her head when she was thrown from her horse. Subsequently, her occipital lobe has been injured. Which of her senses has the highest chance of being affected?
- a. hearing
  - b. touch
  - c. taste and smell
  - d. vision
18. Jaime's grandfather recently suffered a stroke and has had difficulty with language production ever since. Most likely, he has experienced damage to the \_\_\_\_\_ area of his brain.
- a. right rear
  - b. left frontal
  - c. left rear
  - d. right frontal
19. Felicia is recovering from a brain injury. She is able to speak fluently but often uses incorrect words in a sentence. In one instance at a friend's birthday party, she said, "I would like something to drink. Can I have some battery?" Felicia's problem is known as \_\_\_\_\_.
- a. spatial neglect
  - b. visual agnosia
  - c. Broca's aphasia
  - d. Wernicke's aphasia
- 20 Although the brain works largely as a whole, which of the following is NOT a correct pairing of hemisphere and function?
- a. left; control of right-handed motor functions

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- b. right; control of right-handed motor functions
- c. right; recognition of faces
- d. left; reading

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## **EXTRA BANK OF QUESTIONS**

### **2: THE BIOLOGICAL PERSPECTIVE**

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#### 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. Physiological psychologists study \_\_\_\_\_.

- a. human mental and physical growth from the prenatal period through childhood, adolescence, adulthood, and old age
- b. the biological basis for human behavior.
- c. the differences among individuals in such traits as anxiety, sociability, self-esteem, the need for achievement, and aggressiveness
- d. how people influence one another

**Answer b % correct 49 a= 26 b= 49 c= 20 d= 5 r = .42**

4. 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**

5. 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

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- c. interaction neurons
- d. association neurons

**Answer b % correct 89 a= 4 b= 89 c= 2 d= 4 r = .34**

6. When the electrical charge inside a neuron is negative in relation to the outside, the neuron is said to be in a state of:

- a. equilibrium.
- b. shock.
- c. polarization.
- d. depolarization.

**Answer c % correct 81 a= 3 b= 2 c= 73 d= 12 r = .27**

7. 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**

8. 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**

9. 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**

10. 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**

11. 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**

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12. The small gap between adjacent neurons is the:

- a. glia.
- b. myelin sheath.
- c. synaptic cleft.
- d. terminal.

**Answer c % correct 83 a= 2 b= 6 c= 83 d= 9 r = .20**

13. 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**

14. 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**

15. 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**

16. 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**

17. 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**

18. What kinds of neurons are connected to receptor cells in the skin, muscles, and joints?

- a. peripheral neurons
- b. interneurons

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- c. sensory neurons
- d. motor neurons

**Answer c % correct 70 a= 3 b= 5 c= 70 d= 22 r = .27**

19. 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**

20. 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**

21. 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**

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. 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**

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25. 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**

26. 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**

27. 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**

28. 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**

29. 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**

30. 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**

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31. 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**

32. 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**

33. 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**

34. 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 60 a= 25 b= 60 c= 6 d= 8 r = .40**

35. 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**

36. An emergency room physician must treat a patient who has recently eaten a can of tainted mushrooms. Suspecting botulism, the physician must treat the woman in order to:
- a. prevent the breakdown of catecholamines in the patient's nervous system.
  - b. prevent the botulism toxin from blocking the release of acetylcholine.
  - c. prevent the toxin from breaking down the acetylcholine in the patient's nervous system.
  - d. prevent the botulism from blocking the release of catecholamines.

**Answer b % correct 78 a= 3 b= 78 c= 8 d= 11 r = .23**

37. Axons \_\_\_\_\_.

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- 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

38. 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**

39. 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**

40. 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**

41. 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**

42. 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**

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43. 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**

44. 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**

45. 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**

46. 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**

47. 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**

48. 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

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- c. parasympathetic nervous
- d. limbic

**Answer b % correct 80 a= 6 b= 80 c= 12 d= 3 r = .52**

49. The FIRST division of the nervous system consists of the:
- a. central and peripheral nervous systems.
  - b. brain and spinal cord.
  - c. somatic and autonomic nervous systems.
  - d. sympathetic and parasympathetic nervous systems.

**Answer a % correct 73 a= 73 b= 20 c= 4 d= 26 r = .41**

50. 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**

51. 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**

52. 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**

53. 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**

54. 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**

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55. 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**

56. 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**

57. 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**

58. The nervous system is comprised of two 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 b % correct 96 a= 1 b= 96 c= 0 d= 3 r = .34**

59. 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**

60. 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**

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61. 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**

62. 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

63. 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**

64. 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**

65. 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**

66. 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

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d. frontal lobe

**Answer c % correct 61 a= 10 b= 15 c= 61 d= 13 r = .33**

67. 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**

68. 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**

69. 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**

70. 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**

71. 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**

72. 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**

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73. 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**

74. 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**

75. 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**

76. 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**

77. 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**

78. "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**

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79. 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**

80. The forebrain is one of \_\_\_\_\_ operationally distinct sections of the brain.

- a. two
- b. three
- c. four
- d. five

**Answer b % correct 57 a= 4 b= 57 c= 35 d= 4 r = .39**

81. 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**

82. 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**

83. 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**

84. The medulla, pons, and thalamus are all part of the:

- a. limbic system.
- b. corpus callosum.
- c. cerebral cortex.
- d. brainstem.

**Answer d % correct 72 a= 9 b= 3 c= 15 d= 72 r = .38**

85. The brain's "relay station" is the \_\_\_\_\_.

- a. hypothalamus

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- b. medulla
- c. pons
- d. thalamus

**Answer d % correct 72 a= 10 b= 13 c= 4 d= 72 r = .51**

86. 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**

87. 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**

88. 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**

89. 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**

90. 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**

91. The motor cortex is located in the \_\_\_\_\_ lobe of the brain.

- a. frontal
- b. occipital
- c. parietal
- d. temporal

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**Answer a % correct 74 a= 74 b= 6 c= 21 d= 9 r = .38**

92. 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**

93. 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**

94. 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**

95. 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**

96. 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**

97. 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

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**Answer c % correct 84 a= 7 b= 10 c= 84 d= 0 r = .40**

98. 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**

99. 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**

100. 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**

101. 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**

102. 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**

103. 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**

104. The left cerebral hemisphere primarily controls:

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- 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**

105. 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**

106. 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**

107. 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**

108. Which of the following is NOT one of the three distinct parts of the brain?

- a. hindbrain
- b. lateral brain
- c. midbrain
- d. forebrain

**Answer b % correct 99 a= 1 b= 99 c= 0 d= 0 r = .06**

109. 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 72 a= 72 b= 8 c= 18 d= 2 r = .37**

110. The cerebellum \_\_\_\_\_.

- a. controls blood pressure
- b. is involved in emotional behavior
- c. coordinates actions so that movements are efficient

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d. relays messages from the sensory receptors

**Answer c % correct 84 a= 3 b= 5 c= 84 d= 8 r = .40**

111. 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**

112. 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**

113. The part of the brain responsible for emotional behavior and regulating the nervous system in times of stress is the \_\_\_\_\_.

- a. medulla
- b. cerebellum
- c. thalamus
- d. hypothalamus

**Answer d % correct 60 a= 8 b= 4 c= 28 d= 60 r = .35**

114. 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**

115. 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**

116. 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

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d. frontal lobe

**Answer b % correct 68 a= 10 b= 68 c= 11 d= 10 r = .34**

117. 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**

118. 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**

119. 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**

120. 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**

121. The hemisphere of the brain that acts as an interpreter, helping us with sequencing and logic is the \_\_\_\_\_.

- a. front
- b. rear
- c. left
- d. right

**Answer d % correct 51 a= 12 b= 4 c= 51 d= 33 r = .24**

122. 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**

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123. 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**

124. 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**

The Chemical Connection

125. 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**

126. Endocrine glands are glands that secrete \_\_\_\_\_.

- a. excitatory neurotransmitters
- b. inhibitory neurotransmitters
- c. hormones
- d. enzymes

**Answer c % correct 73 a= 12 b= 5 c= 73 d= 10 r = .25**

127. 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**

128. Jeff is 13 years old and he has recently noticed some remarkable changes in himself. Over the past few months his voice has started to change, growing deeper. He has begun to grow pubic hair, as well as the beginnings of a facial beard. He is also filling out, with his muscles developing rapidly. These changes in Jeff are probably due to the action of \_\_\_\_\_.

- a. gonads
- b. thyroid gland
- c. pineal gland
- d. adrenal gland

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**Answer a % correct 60 a= 60 b= 24 c= 10 d= 6 r = .32**

129. 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**

130. 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**

131. 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**

132. 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**

133. 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**

134. 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**

135. The \_\_\_\_\_ gland produces the hormone which regulates the body's rate of metabolism.

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- a. pituitary
- b. adrenal
- c. thyroid
- d. parathyroid

**Answer c % correct 55 a= 34 b= 10 c= 55 d= 1 r = .22**

136. Estrogen is to \_\_\_\_\_ as testosterone is to \_\_\_\_\_.

- a. gonads; testes
- b. testes; ovaries
- c. ovaries; testes
- d. ovaries; gonads

**Answer c % correct 89 a= 2 b= 1 c= 89 d= 8 r = .41**

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## REVEL Assessments

### End of Module Quizzes

#### Quiz: Neurons and Nerves: Building the Network

**Level**

(1)=Easy; (2)=Moderate; (3)=Difficult

LO=Learning Objective

#### Quiz: Neurons and Nerves: Building the Network

##### Multiple Choice Single Select

EOM Q2.1.1

Which part of the neuron carries messages to other cells?

- a) axon
- b) dendrite

**Consider This:** This is a fiber that branches out into several shorter fibers that have swellings or little knobs on the ends. LO 2.1 Identify the parts of a neuron and the function of each.

- c) soma

**Consider This:** This is a fiber that branches out into several shorter fibers that have swellings or little knobs on the ends. LO 2.1 Identify the parts of a neuron and the function of each.

- d) myelin

**Consider This:** This is a fiber that branches out into several shorter fibers that have swellings or little knobs on the ends. LO 2.1 Identify the parts of a neuron and the function of each.

##### Topic: Neurons and Nerves: Building the Network

ANS: a, Remember the Facts, LO 2.1 Identify the parts of a neuron and the function of each., (1)

EOM Q2.1.2

Which one of the following is NOT a function of glial cells?

- a) generating action potentials
- b) getting nutrients to the neurons

**Consider This:** While historically viewed as support cells for neurons, the expanded roles of glia are still being discovered. LO 2.1 Identify the parts of a neuron and the function of each.

- c) cleaning up the remains of dead neurons

**Consider This:** While historically viewed as support cells for neurons, the expanded roles of glia are still being discovered. LO 2.1 Identify the parts of a neuron and the function of each.

- d) generating myelin

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**Consider This:** While historically viewed as support cells for neurons, the expanded roles of glia are still being discovered. LO 2.1 Identify the parts of a neuron and the function of each.

**Topic: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO 2.1 Identify the parts of a neuron and the function of each., (1)**

EOM Q2.1.3

When a neuron's resting potential is occurring, the neuron is \_\_\_\_\_ charged on the inside.

- a) negatively
- b) positively

**Consider This:** A neuron that's at rest is not currently firing a neural impulse or message. LO 2.2 Explain the action potential.

- c) both positively and negatively

**Consider This:** A neuron that's at rest is not currently firing a neural impulse or message. LO 2.2 Explain the action potential.

- d) neutrally

**Consider This:** A neuron that's at rest is not currently firing a neural impulse or message. LO 2.2 Explain the action potential.

**ANS: a**

**Topic: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO 2.2 Explain the action potential., (1)**

EOM Q2.1.4

Neurotransmitters must pass from an axon terminal to the next dendrite by crossing a fluid-filled space called the

- a) synapse.
- b) neuron.

**Consider This:** Neurotransmitters originate inside neurons and must cross this gap between adjacent neurons to transmit messages.

- c) reuptake inhibitor.

**Consider This:** Neurotransmitters originate inside neurons and must cross this gap between adjacent neurons to transmit messages.

- d) glial cell.

**Consider This:** Neurotransmitters originate inside neurons and must cross this gap between adjacent neurons to transmit messages.

**Topic: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO 2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (1)**

EOM Q2.1.5

The venom of a black widow spider acts as a(n) \_\_\_\_\_ by mimicking the effects of acetylcholine.

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## Ciccarelli Psychology Test Bank

- a) agonist
- b) protagonist

**Consider This:** This is a chemical substance that mimics or enhances the effects of a neurotransmitter. LO 2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body.

- c) antagonist

**Consider This:** This is a chemical substance that mimics or enhances the effects of a neurotransmitter. LO 2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body.

- d) glial cell

**Consider This:** This is a chemical substance that mimics or enhances the effects of a neurotransmitter. LO 2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body.

### Topic: Neurons and Nerves: Building the Network

**ANS: a, Remember the Facts, LO 2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (1)**

EOM Q2.1.6

Which of the following is associated with pain relief?

- a) endorphins
- b) acetylcholine

**Consider This:** When a person is hurt, these pain relieving chemicals are released when a neurotransmitter signaling pain reaches the brain.

- c) glutamate

**Consider This:** When a person is hurt, these pain relieving chemicals are released when a neurotransmitter signaling pain reaches the brain.

- d) serotonin

**Consider This:** When a person is hurt, these pain relieving chemicals are released when a neurotransmitter signaling pain reaches the brain.

### Topic: Neurons and Nerves: Building the Network

**ANS: a, Remember the Facts, LO 2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (1)**

## Quiz: An Overview of the Nervous System

### Multiple Choice Single Select

EOM Q2.2.1

If you touch a hot stove, your spinal cord can prompt you to withdraw your hand without having to send the message all the way to the brain. This is due to what scientists call

- a) the reflex arc.
- b) neuroplasticity.

**Consider This:** Having this controlled by the spinal cord alone allows for very fast response times. LO 2.4 Describe how the brain and spinal cord interact and respond to external experiences.

- c) the parasympathetic nervous system.

Ciccarelli Psychology Test Bank

**Consider This:** Having this controlled by the spinal cord alone allows for very fast response times. LO 2.4 Describe how the brain and spinal cord interact and respond to external experiences.

- d) the sympathetic nervous system.

**Consider This:** Having this controlled by the spinal cord alone allows for very fast response times. LO 2.4 Describe how the brain and spinal cord interact and respond to external experiences.

**Topic: An Overview of the Nervous System**

**ANS: a, Apply What You Know, LO 2.4 Describe how the brain and spinal cord interact and respond to external experiences., (1)**

EOM Q2.2.2

What is the process whereby the structure and function of brain cells change in response to trauma, damage, or even learning?

- a) neuroplasticity
- b) shallow lesioning

**Consider This:** Dendrites grow and new synapses are formed in at least some areas of the brain as people learn new things throughout life. LO 2.4 Describe how the brain and spinal cord interact and respond to external experiences.

- c) deep lesioning

**Consider This:** Dendrites grow and new synapses are formed in at least some areas of the brain as people learn new things throughout life. LO 2.4 Describe how the brain and spinal cord interact and respond to external experiences.

- d) cell regeneration

**Consider This:** Dendrites grow and new synapses are formed in at least some areas of the brain as people learn new things throughout life. LO 2.4 Describe how the brain and spinal cord interact and respond to external experiences.

**Topic: An Overview of the Nervous System**

**ANS: a, Remember the Facts, LO 2.4 Describe how the brain and spinal cord interact and respond to external experiences., (1)**

EOM Q2.2.3

The neurons of the sensory pathway contain

- a) afferent neurons.
- b) efferent neurons.

**Consider This:** The sensory pathway comprises all the nerves carrying messages from the senses to the central nervous system. LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems.

- c) both efferent and afferent neurons.

**Consider This:** The sensory pathway comprises all the nerves carrying messages from the senses to the central nervous system. LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems.

- d) voluntary muscle fibers.

**Consider This:** The sensory pathway comprises all the nerves carrying messages from the senses to the central nervous system. LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems.

Ciccarelli Psychology Test Bank

**Topic: An Overview of the Nervous System**

**ANS: a, Apply What You Know, LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2)**

EOM Q2.2.4

Yvonne's ability to reach for and pick up her book is largely due to the functions of the \_\_\_\_\_ pathway of the \_\_\_\_\_ nervous system.

- a) motor; somatic
- b) sensory; somatic

**Consider This:** This pathway is all the nerves carrying messages from the central nervous system to the voluntary, or skeletal, muscles of the body. LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems.

- c) autonomic; peripheral

**Consider This:** This pathway is all the nerves carrying messages from the central nervous system to the voluntary, or skeletal, muscles of the body. LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems.

- d) parasympathetic; autonomic

**Consider This:** This pathway is all the nerves carrying messages from the central nervous system to the voluntary, or skeletal, muscles of the body. LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems.

**Topic: An Overview of the Nervous System**

**ANS: a, Apply What You Know, LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2)**

EOM Q2.2.5

Which of the following would be active if you have just had an automobile accident?

- a) sympathetic division
- b) parasympathetic division

**Consider This:** This is called the "fight-or-flight system" because it allows people and animals to deal with all kinds of stressful events. LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems.

- c) somatic division

**Consider This:** This is called the "fight-or-flight system" because it allows people and animals to deal with all kinds of stressful events. LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems.

- d) motor division

**Consider This:** This is called the "fight-or-flight system" because it allows people and animals to deal with all kinds of stressful events. LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems.

**Topic: An Overview of the Nervous System**

**ANS: a, Apply What You Know, LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems., (2)**

**Quiz: Distant Connections: The Endocrine Glands**

Ciccarelli Psychology Test Bank

**Multiple Choice Single Select**

EOM Q2.3.1

Your friend Melissa has suffered from diabetes for her entire life. She regularly tests her blood to make sure her sugar levels are not too high or low. Which gland in her endocrine system is responsible for regulating her blood sugar?

- a) pancreas
- b) thyroid

**Consider This:** This gland secretes insulin and glucagon. LO 2.7 Recall the role of various endocrine glands.

- c) pituitary

**Consider This:** This gland secretes insulin and glucagon. LO 2.7 Recall the role of various endocrine glands.

- d) adrenal

**Consider This:** This gland secretes insulin and glucagon. LO 2.7 Recall the role of various endocrine glands.

**Topic: Distant Connections: The Endocrine Glands**

**ANS: a, Apply What You Know, LO 2.7 Recall the role of various endocrine glands., (2)**

EOM Q2.3.2

Andrew has always been thin. In fact, he often seems to be able to eat whatever he wants without gaining weight. The doctor told his parents that Andrew's \_\_\_\_\_ gland is the cause of his fast metabolism.

- a) thyroid
- b) pituitary

**Consider This:** This gland secretes a hormone that controls the burning of energy. LO 2.7 Recall the role of various endocrine glands.

- c) adrenal

**Consider This:** This gland secretes a hormone that controls the burning of energy. LO 2.7 Recall the role of various endocrine glands.

- d) pancreas

**Consider This:** This gland secretes a hormone that controls the burning of energy. LO 2.7 Recall the role of various endocrine glands.

**Topic: Distant Connections: The Endocrine Glands**

**ANS: a, Apply What You Know, LO 2.7 Recall the role of various endocrine glands., (2)**

EOM Q2.3.3

Although oxytocin has been tied to a variety of prosocial behaviors such as “love” and “trust,” some researchers believe that in humans, it may actually work to increase \_\_\_\_\_.

- a) the importance of some social stimuli
- b) heart rate and empathy

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**Consider This:** Oxytocin's effects depend on what people believe about themselves in relation to other people and what they believe about achieving close social relationships. LO 2.7 Recall the role of various endocrine glands.

- c) negative pair bonding

**Consider This:** Oxytocin's effects depend on what people believe about themselves in relation to other people and what they believe about achieving close social relationships. LO 2.7 Recall the role of various endocrine glands.

- d) social loafing

**Consider This:** Oxytocin's effects depend on what people believe about themselves in relation to other people and what they believe about achieving close social relationships. LO 2.7 Recall the role of various endocrine glands.

### **Topic: Distant Connections: The Endocrine Glands**

**ANS: a, Understand the Concepts, LO 2.7 Recall the role of various endocrine glands., (2)**

EOM Q2.3.4

Which gland(s) have the greatest influence over other components of the endocrine system?

- a) pituitary
- b) gonads

**Consider This:** Part of this gland secretes several hormones that influence the activity of the other glands. LO 2.6 Explain why the pituitary gland is known as the "master gland."

- c) pineal

**Consider This:** Part of this gland secretes several hormones that influence the activity of the other glands. LO 2.6 Explain why the pituitary gland is known as the "master gland."

- d) pancreas

**Consider This:** Part of this gland secretes several hormones that influence the activity of the other glands. LO 2.6 Explain why the pituitary gland is known as the "master gland."

### **Topic: Distant Connections: The Endocrine Glands**

**ANS: a, Understand the Concepts, LO 2.6 Explain why the pituitary gland is known as the "master gland.", (2)**

## **Quiz: Looking Inside the Living Brain**

### **Multiple Choice Single Select**

EOM 2.4.1

Which of the following techniques involves passing a mild current through the brain to activate certain structures without damaging them?

- a) electrical stimulation of the brain (ESB)
- b) electroconvulsive tomography (ECT)

**Consider This:** This has become an important technique in psychology, as its use in animals has informed us in many areas of investigation, including new directions for therapy. LO 2.8 Describe how lesioning studies and brain stimulation are used to study the brain.

Ciccarelli Psychology Test Bank

c) magnetic resonance imaging (MRI)

**Consider This:** This has become an important technique in psychology, as its use in animals has informed us in many areas of investigation, including new directions for therapy. LO 2.8 Describe how lesioning studies and brain stimulation are used to study the brain.

d) deep brain lesioning

**Consider This:** This has become an important technique in psychology, as its use in animals has informed us in many areas of investigation, including new directions for therapy. LO 2.8 Describe how lesioning studies and brain stimulation are used to study the brain.

**Topic: Looking Inside the Living Brain**

**ANS: a, Understand the Concepts, LO 2.8 Describe how lesioning studies and brain stimulation are used to study the brain., (2)**

EOM 2.4.2

Which of the following techniques analyzes blood oxygen levels to look at the functioning of the brain?

a) fMRI

b) EEG

**Consider This:** In this technique, a modification of a method typically used for imaging brain structure is used to assess brain function. LO 2.8 Describe how lesioning studies and brain stimulation are used to study the brain.

c) CT

**Consider This:** In this technique, a modification of a method typically used for imaging brain structure is used to assess brain function. LO 2.8 Describe how lesioning studies and brain stimulation are used to study the brain.

d) PET

**Consider This:** In this technique, a modification of a method typically used for imaging brain structure is used to assess brain function. LO 2.8 Describe how lesioning studies and brain stimulation are used to study the brain.

**Topic: Looking Inside the Living Brain**

**ANS: a, Understand the Concepts, LO 2.8 Describe how lesioning studies and brain stimulation are used to study the brain., (2)**

EOM 2.4.3

Dr. Roll is conducting a research study. She wants to measure the physical connectivity in the research participants' brains by imaging their white matter. Which of the following methods will she use?

a) diffusion tensor imaging (DTI)

b) MRI spectroscopy

**Consider This:** This technique uses MRI technology; it has been used to investigate both normal function and structural changes associated with various disorders and conditions. LO 2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain.

c) functional magnetic resonance imaging (fMRI)

**Consider This:** This technique uses MRI technology; it has been used to investigate both normal function and structural changes associated with various disorders and conditions. LO 2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain.

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d) computed tomography (CT)

**Consider This:** This technique uses MRI technology; it has been used to investigate both normal function and structural changes associated with various disorders and conditions. LO 2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain.

**Topic: Looking Inside the Living Brain**

**ANS: a, Apply What You Know, LO 2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (2)**

EOM 2.4.4

If you were suffering from neurological problems and your neurologist wanted to have a study done of your brain and its electrical functioning, which of the following techniques would be most appropriate?

- a) EEG
- b) PTI

**Consider This:** This technique involves having metal or sponge-like electrodes placed directly onto your scalp. LO 2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain.

c) PET

**Consider This:** This technique involves having metal or sponge-like electrodes placed directly onto your scalp. LO 2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain.

d) DTI

**Consider This:** This technique involves having metal or sponge-like electrodes placed directly onto your scalp. LO 2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain.

**Topic: Looking Inside the Living Brain**

**ANS: a, Apply What You Know, LO 2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (2)**

**Quiz: From the Bottom Up: The Structures of the Brain**

**Multiple Choice Single Select**

EOM Q2.5.1

Which brain structure allows us to pay attention to certain stimuli while ignoring others?

- a) reticular formation
- b) medulla

**Consider This:** This is a network of neurons running through the middle of the medulla and the pons and slightly beyond. LO 2.10 Identify the different structures of the hindbrain and the function of each.

c) cerebellum

**Consider This:** This is a network of neurons running through the middle of the medulla and the pons and slightly beyond. LO 2.10 Identify the different structures of the hindbrain and the function of each.

d) pons

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**Consider This:** This is a network of neurons running through the middle of the medulla and the pons and slightly beyond. LO 2.10 Identify the different structures of the hindbrain and the function of each.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO 2.10 Identify the different structures of the hindbrain and the function of each., (1)**

EOM Q2.5.2

Which brain structure relays incoming sensory information?

- a) thalamus
- b) hypothalamus

**Consider This:** This structure might process that sensory information before sending it on to the part of the cortex that deals with that kind of sensation. LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.

- c) reticular formation

**Consider This:** This structure might process that sensory information before sending it on to the part of the cortex that deals with that kind of sensation. LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.

- d) pons

**Consider This:** This structure might process that sensory information before sending it on to the part of the cortex that deals with that kind of sensation. LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (1)**

EOM Q2.5.3

If you were to develop a rare condition in which you were not able to remember to be afraid of certain situations, animals, or events, which part of the brain would most likely be damaged?

- a) amygdala
- b) cingulate cortex

**Consider This:** This is involved in fear responses and memory of fear. LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.

- c) hypothalamus

**Consider This:** This is involved in fear responses and memory of fear. LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.

- d) thalamus

**Consider This:** This is involved in fear responses and memory of fear. LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (2)**

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EOM Q2.5.4

What part of the brain can sometimes be referred to as the “rind” or outer covering?

- a) cortex
- b) thalamus

**Consider This:** This is very recognizable surface anatomy because it is full of wrinkles. LO 2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body.

- c) medulla

**Consider This:** This is very recognizable surface anatomy because it is full of wrinkles. LO 2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body.

- d) corpus callosum

**Consider This:** This is very recognizable surface anatomy because it is full of wrinkles. LO 2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO 2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (1)**

EOM Q2.5.5

In which of the following lobes of the cortex would you find the primary visual cortex?

- a) occipital
- b) frontal

**Consider This:** This is located at the base of the cortex, toward the back of the brain. LO 2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body.

- c) temporal

**Consider This:** This is located at the base of the cortex, toward the back of the brain. LO 2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body.

- d) parietal

**Consider This:** This is located at the base of the cortex, toward the back of the brain. LO 2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO 2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (1)**

EOM Q2.5.6

You have a dream in which you wake up to find that people around you are using words that make no sense. What’s more, your friends don’t seem to understand you when you speak. At one point in your dream, your mom tells you that you almost forgot your tree limb today. When you give her a puzzled look, she holds up your lunchbox and repeats, “You know, your tree limb.” Your predicament in your dream is most like which of the following disorders?

- a) Wernicke’s aphasia
- b) Broca’s aphasia

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**Consider This:** A person with this condition is able to speak fluently and pronounce words correctly, but the words would be the wrong ones entirely. LO 2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language.

c) apraxia

**Consider This:** A person with this condition is able to speak fluently and pronounce words correctly, but the words would be the wrong ones entirely. LO 2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language.

d) spatial neglect

**Consider This:** A person with this condition is able to speak fluently and pronounce words correctly, but the words would be the wrong ones entirely. LO 2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO 2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language., (2)**

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## End of Chapter Quiz

### Quiz: The Biological Perspective

#### Multiple Choice Single Select

EOC Q2.1

In the structure of the neuron, the \_\_\_\_\_ receives messages from other cells.

- a) dendrite
- b) axon

**Consider This:** This structure looks like the branches of a tree. LO 2.1 Identify the parts of a neuron and the function of each.

- c) soma

**Consider This:** This structure looks like the branches of a tree. LO 2.1 Identify the parts of a neuron and the function of each.

- d) myelin

**Consider This:** This structure looks like the branches of a tree. LO 2.1 Identify the parts of a neuron and the function of each.

#### Topic: Neurons and Nerves: Building the Network

**ANS: a, Remember the Facts, LO 2.1 Identify the parts of a neuron and the function of each., (1)**

EOC Q2.2

Oligodendrocytes and Schwann cells generate a fatty substance known as

- a) myelin.
- b) glial.

**Consider This:** This substance wraps around the shaft of the axons, forming an insulating and protective sheath. LO 2.1 Identify the parts of a neuron and the function of each.

- c) soma.

**Consider This:** This substance wraps around the shaft of the axons, forming an insulating and protective sheath. LO 2.1 Identify the parts of a neuron and the function of each.

- d) neurilemma.

**Consider This:** This substance wraps around the shaft of the axons, forming an insulating and protective sheath. LO 2.1 Identify the parts of a neuron and the function of each.

#### Topic: Neurons and Nerves: Building the Network

**ANS: a, Remember the Facts, LO 2.1 Identify the parts of a neuron and the function of each., (1)**

EOC Q2.3

Which of the following insulates and protects a neuron's axon, as well as helps speed along electrical impulses?

- a) myelin sheath
- b) synaptic knobs

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**Consider This:** Sections of myelin bump up next to each other on the axon. LO 2.1 Identify the parts of a neuron and the function of each.

c) receptor sites

**Consider This:** Sections of myelin bump up next to each other on the axon. LO 2.1 Identify the parts of a neuron and the function of each.

d) neuromodulators

**Consider This:** Sections of myelin bump up next to each other on the axon. LO 2.1 Identify the parts of a neuron and the function of each.

**Topic: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO 2.1 Identify the parts of a neuron and the function of each., (1)**

EOC Q2.4

When a neuron is in the resting potential state, the neuron is negatively charged on the \_\_\_\_\_ and positively charged on the \_\_\_\_\_.

a) inside; outside

b) outside; inside

**Consider This:** A neuron that's at rest—not currently firing a neural impulse or message—is actually electrically charged. LO 2.2 Explain the action potential.

c) top; bottom

**Consider This:** A neuron that's at rest—not currently firing a neural impulse or message—is actually electrically charged. LO 2.2 Explain the action potential.

d) bottom; top

**Consider This:** A neuron that's at rest—not currently firing a neural impulse or message—is actually electrically charged. LO 2.2 Explain the action potential.

**Topic: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO 2.2 Explain the action potential., (1)**

EOC Q2.5

Which neurotransmitter stimulates skeletal muscle cells to contract but slows contractions of the heart?

a) acetylcholine (ACh)

b) GABA

**Consider This:** This was the first neurotransmitter ever identified; it is often found at the synapses between neurons and muscle cells.

c) serotonin

**Consider This:** This was the first neurotransmitter ever identified; it is often found at the synapses between neurons and muscle cells.

d) endorphin

**Consider This:** This was the first neurotransmitter ever identified; it is often found at the synapses between neurons and muscle cells.

**Topic: Neurons and Nerves: Building the Network**

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**ANS: a, Remember the Facts, LO 2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (1)**

EOC Q2.6

Heroin mimics the actions of endorphins, inhibiting pain signals. Heroin is an example of a(n):

- a) agonist.
- b) protagonist.

**Consider This:** This can mimic or enhance the effects of neurotransmitters on the receptor sites of the next cell. LO 2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body.

- c) antagonist.

**Consider This:** This can mimic or enhance the effects of neurotransmitters on the receptor sites of the next cell. LO 2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body.

- d) glial cell.

**Consider This:** This can mimic or enhance the effects of neurotransmitters on the receptor sites of the next cell. LO 2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body.

**Topic: Neurons and Nerves: Building the Network**

**ANS: a, Remember the Facts, LO 2.3 Describe how neurons use neurotransmitters to communicate with each other and with the body., (1)**

EOC Q2.7

Involuntary muscles are controlled by the \_\_\_\_\_ nervous system.

- a) autonomic
- b) somatic

**Consider This:** Involuntary muscles, such as the heart, stomach, and intestines, are controlled by clumps of neurons located on or near the spinal column. LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems.

- c) sympathetic

**Consider This:** Involuntary muscles, such as the heart, stomach, and intestines, are controlled by clumps of neurons located on or near the spinal column. LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems.

- d) parasympathetic

**Consider This:** Involuntary muscles, such as the heart, stomach, and intestines, are controlled by clumps of neurons located on or near the spinal column. LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems.

**Topic: An Overview of the Nervous System**

**ANS: a, Remember the Facts, LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems., (1)**

EOC Q2.8

As you take notes, your heart beats at a normal rate. Your breathing is normal and your stomach slowly digests your earlier meal. What part of the peripheral nervous system is currently in action?

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- a) autonomic

Consider This: This system is sometimes called the “rest and digest” system.

- b) sympathetic

Consider This: This system is sometimes called the “rest and digest” system.

- c) parasympathetic

- d) somatic

Consider This: This system is sometimes called the “rest and digest” system.

**Topic: An Overview of the Nervous System**

**ANS: c, Remember the Facts, LO 2.5 Differentiate the roles of the somatic and autonomic nervous systems., (1)**

EOC Q2.9

Robert has had difficulty sleeping for the past 6 months, and his body seemingly no longer differentiates between night and day. His doctor believes the problem lies with Robert’s endocrine system. What gland will Robert’s physician focus on?

- a) pineal

- b) pituitary

**Consider This:** This gland secretes a hormone called melatonin, which helps track day length. LO 2.7 Recall the role of various endocrine glands.

- c) adrenal

**Consider This:** This gland secretes a hormone called melatonin, which helps track day length. LO 2.7 Recall the role of various endocrine glands.

- d) thyroid

**Consider This:** This gland secretes a hormone called melatonin, which helps track day length. LO 2.7 Recall the role of various endocrine glands.

**Topic: Distant Connections: The Endocrine Glands**

**ANS: a, Apply What You Know, LO 2.7 Recall the role of various endocrine glands., (2)**

EOC Q2.10

Which gland(s) influence all other glands within the endocrine system?

- a) pituitary gland

- b) pineal gland

**Consider This:** Part of this gland secretes several hormones that influence the activity of the other glands. LO 2.6 Explain why the pituitary gland is known as the “master gland.”

- c) thyroid gland

**Consider This:** Part of this gland secretes several hormones that influence the activity of the other glands. LO 2.6 Explain why the pituitary gland is known as the “master gland.”

- d) adrenal glands

**Consider This:** Part of this gland secretes several hormones that influence the activity of the other glands. LO 2.6 Explain why the pituitary gland is known as the “master gland.”

**Topic: Distant Connections: The Endocrine Glands**

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**ANS: a, Remember the Facts, LO 2.6 Explain why the pituitary gland is known as the “master gland.”, (1)**

EOC Q2.11

Bailey is a subject in a study on memory and problem solving. The researcher is applying magnetic pulses to her brain through copper wire coils positioned directly above her scalp. Bailey’s study would best be described as a(n)

- a) noninvasive stimulation technique.
- b) invasive stimulation technique.

**Consider This:** In this technique, the resulting magnetic fields stimulate neurons in the targeted area of the cortex. LO 2.8 Describe how lesioning studies and brain stimulation are used to study the brain.

- c) EEG technique.

**Consider This:** In this technique, the resulting magnetic fields stimulate neurons in the targeted area of the cortex. LO 2.8 Describe how lesioning studies and brain stimulation are used to study the brain.

- d) PET technique.

**Consider This:** In this technique, the resulting magnetic fields stimulate neurons in the targeted area of the cortex. LO 2.8 Describe how lesioning studies and brain stimulation are used to study the brain.

**Topic: Looking Inside the Living Brain**

**ANS: a, Apply What You Know, LO 2.8 Describe how lesioning studies and brain stimulation are used to study the brain., (2)**

EOC Q2.12

Which technique of studying the brain involves injecting the patient with radioactive glucose?

- a) PET
- b) EEG

**Consider This:** Active brain areas require energy. In this technique brain activity is examined by identifying which cells are using up the radioactive glucose.

- c) MRI

**Consider This:** Active brain areas require energy. In this technique brain activity is examined by identifying which cells are using up the radioactive glucose.

- d) CT

**Consider This:** Active brain areas require energy. In this technique brain activity is examined by identifying which cells are using up the radioactive glucose.

**Topic: Looking Inside the Living Brain**

**ANS: a, Understand the Concepts, LO 2.9 Compare and contrast neuroimaging techniques for mapping the structure and function of the brain., (2)**

EOC Q2.13

Maria often sleeps soundly and rarely awakens to any outside noise. However, the cries of Maria’s baby can awaken her immediately. What part of the brain is responsible for this reaction?

- a) reticular formation
- b) medulla

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**Consider This:** This is the part of the brain that helps keep people alert and aroused. LO 2.10 Identify the different structures of the hindbrain and the function of each.

c) pons

**Consider This:** This is the part of the brain that helps keep people alert and aroused. LO 2.10 Identify the different structures of the hindbrain and the function of each.

d) cerebellum

**Consider This:** This is the part of the brain that helps keep people alert and aroused. LO 2.10 Identify the different structures of the hindbrain and the function of each.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO 2.10 Identify the different structures of the hindbrain and the function of each., (2)**

EOC Q2.14

Nicole and Camille are synchronized swimmers for their college swim team. They often work long hours to ensure the movements in their routine are perfectly timed. What part of their brains must Camille and Nicole rely most upon?

a) cerebellum

b) medulla

**Consider This:** This part of the brain coordinates voluntary movements that have to happen in rapid succession. LO 2.10 Identify the different structures of the hindbrain and the function of each.

c) pons

**Consider This:** This part of the brain coordinates voluntary movements that have to happen in rapid succession. LO 2.10 Identify the different structures of the hindbrain and the function of each.

d) reticular formation

**Consider This:** This part of the brain coordinates voluntary movements that have to happen in rapid succession. LO 2.10 Identify the different structures of the hindbrain and the function of each.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO 2.10 Identify the different structures of the hindbrain and the function of each., (2)**

EOC Q2.15

Your psychology professor refers to this as the great relay station of the brain. What part is he or she referring to?

a) thalamus

b) hypothalamus

**Consider This:** Recent research has also suggested that this part of the brain may affect the functioning of task-specific regions of the cortex. LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.

c) hippocampus

**Consider This:** Recent research has also suggested that this part of the brain may affect the functioning of task-specific regions of the cortex. LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.

d) amygdala

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**Consider This:** Recent research has also suggested that this part of the brain may affect the functioning of task-specific regions of the cortex. LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (2)**

EOC Q2.16

Which part of the brain is involved in the creation of long-term, declarative memories, and is often linked to Alzheimer's disease?

- a) hippocampus
- b) thalamus

**Consider This:** This is the Greek word for "seahorse," and it was given to this brain structure because the first scientists who dissected the brain thought it looked like a seahorse. LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.

- c) hypothalamus

**Consider This:** This is the Greek word for "seahorse," and it was given to this brain structure because the first scientists who dissected the brain thought it looked like a seahorse. LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.

- d) amygdala

**Consider This:** This is the Greek word for "seahorse," and it was given to this brain structure because the first scientists who dissected the brain thought it looked like a seahorse. LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Remember the Facts, LO 2.11 Identify the structures of the brain that are involved in emotion, learning, memory, and motivation., (1)**

EOC Q2.17

Jessica suffered a severe blow to the back of her head when she was thrown from her horse. Subsequently, her occipital lobe has been injured. Which of her senses has the highest chance of being affected?

- a) vision
- b) hearing

**Consider This:** The primary cortical processing area for this sensory modality is found in the occipital lobe.

- c) touch

**Consider This:** The primary cortical processing area for this sensory modality is found in the occipital lobe.

- d) taste and smell

**Consider This:** The primary cortical processing area for this sensory modality is found in the occipital lobe.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO 2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (2)**

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EOC Q2.18

Jaime's grandfather recently suffered a stroke and has had difficulty with language production ever since. Most likely, he has experienced damage to the \_\_\_\_\_ area of his brain.

- a) left frontal
- b) right rear

**Consider This:** This area coordinates various brain areas, allowing a person to speak smoothly and fluently.

- c) left rear

**Consider This:** This area coordinates various brain areas, allowing a person to speak smoothly and fluently.

- d) right frontal

**Consider This:** This area coordinates various brain areas, allowing a person to speak smoothly and fluently.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO 2.12 Identify the parts of the cortex that process the different senses and those that control movement of the body., (2)**

EOC Q2.19

Felicia is recovering from a brain injury. She is able to speak fluently but often uses incorrect words in a sentence. In one instance at a friend's birthday party, she said, "I would like something to drink. Can I have some battery?"

Felicia's problem may be a symptom of

- a) Wernicke's aphasia.
- b) spatial neglect.

**Consider This:** People with this condition are able to speak fluently and pronounce words correctly, but the words would be the wrong ones entirely. LO 2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language.

- c) visual agnosia.

**Consider This:** People with this condition are able to speak fluently and pronounce words correctly, but the words would be the wrong ones entirely. LO 2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language.

- d) Broca's aphasia.

**Consider This:** People with this condition are able to speak fluently and pronounce words correctly, but the words would be the wrong ones entirely. LO 2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Apply What You Know, LO 2.13 Name the parts of the cortex that are responsible for higher forms of thought, such as language., (2)**

EOC Q2.20

Although the brain works largely as a whole, which of the following is *not* a correct pairing of hemisphere and function?

- a) right; control of right-handed motor functions
- b) left; control of right-handed motor functions

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**Consider This:** An organizational feature of the cortex is that for specific regions, each hemisphere is responsible for the opposite side of the body, either for control or for receiving information. LO 2.14 Explain how some brain functions differ between the left and right hemispheres.

c) right; recognition of faces

**Consider This:** An organizational feature of the cortex is that for specific regions, each hemisphere is responsible for the opposite side of the body, either for control or for receiving information. LO 2.14 Explain how some brain functions differ between the left and right hemispheres.

d) left; reading

**Consider This:** An organizational feature of the cortex is that for specific regions, each hemisphere is responsible for the opposite side of the body, either for control or for receiving information. LO 2.14 Explain how some brain functions differ between the left and right hemispheres.

**Topic: From the Bottom Up: The Structures of the Brain**

**ANS: a, Understand the Concepts, LO 2.14 Explain how some brain functions differ between the left and right hemispheres., (2)**