

- 1) The function of \_\_\_\_\_ is to carry information to and from all parts of the body.
- A) neurons
  - B) synapses
  - C) the nervous system
  - D) dendrites

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

Incorrect: *Incorrect. The neuron is the basic cell that makes up the nervous system and that receives and sends messages within that system.*

Answer: C

Type: MC      Page Ref: 44      Skill: Factual      Objective: 2.1

- 2) The nervous system is defined as:
- A) a complex network of cells that carries information to and from all parts of the body.
  - B) a network of cells that regulates glands, internal organs, blood vessels, pupil dilation, digestion, and blood pressure.
  - C) all nerves and neurons that are not contained in the brain and spinal cord but that run throughout the body itself.
  - D) a pathway connecting the brain to the organs and muscles.

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

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

Answer: A

Type: MC      Page Ref: 44      Skill: Factual      Objective: 2.1

- 3) 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) parasympathetic and sympathetic nervous systems

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

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

Answer: C

Type: MC      Page Ref: 44      Skill: Factual      Objective: 2.1

- 4) The basic cell that makes up the nervous system and also sends and receives messages within that system is called a/an:
- A) glial cell.
  - B) neuron.
  - C) axon.
  - D) dendrite.

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

Incorrect: *Incorrect. Glial cells serve as a structure for neurons.*

Answer: B

Type: MC      Page Ref: 45      Skill: Factual      Objective: 2.2

5) Which type of cell makes up 10 percent of the brain?

- A) neuron
- B) glial cell
- C) stem cells
- D) afferent cells

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

Incorrect: *Incorrect. Glial cells serve as a structure for neurons.*

Answer: A

Type: MC      Page Ref: 44      Skill: Factual      Objective: 2.2

6) The branchlike structures that RECEIVE messages from other neurons are called:

- A) axons.
- B) nerve bundles.
- C) dendrites.
- D) synapses.

Correct: *Correct. Dendrites receive messages from other neurons.*

Incorrect: *Incorrect. Axons send but do not receive messages.*

Answer: C

Type: MC      Page Ref: 45      Skill: Factual      Objective: 2.2

7) Which part of the neuron is responsible for maintaining the life of the cell?

- A) axon
- B) soma
- C) dendrite
- D) cell membrane

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

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

Answer: B

Type: MC      Page Ref: 45      Skill: Factual      Objective: 2.2

8) The part of a neuron that contains the nucleus and keeps the entire cell alive and functioning is the:

- A) axon.
- B) cell membrane.
- C) dendrite.
- D) soma.

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

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

Answer: D

Type: MC      Page Ref: 45      Skill: Factual      Objective: 2.2

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

- A) soma
- B) axon
- C) dendrite
- D) cell membrane

Correct: *Correct. The axon carries messages to other cells.*

Incorrect: *Incorrect. Dendrites receive messages.*

Answer: B

Type: MC      Page Ref: 45      Skill: Factual      Objective: 2.2

10) The function of the neuron's axon is to:

- A) carry messages to other cells.
- B) regulate the neuron's life processes.
- C) receive messages from neighbouring neurons.
- D) insulate against leakage of electrical impulses.

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

Incorrect: *Incorrect. Dendrites, not axons, receive messages.*

Answer: A

Type: MC      Page Ref: 45      Skill: Factual      Objective: 2.2

11) \_\_\_\_\_ receive messages from other neurons and \_\_\_\_\_ send messages to other neurons.

- A) Axons; dendrites
- B) Axons; soma
- C) Soma; glial cells
- D) Dendrites; axons

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

Incorrect: *Incorrect. Axons send messages, and dendrites receive messages.*

Answer: D

Type: MC      Page Ref: 45      Skill: Conceptual      Objective: 2.2

12) Glial cells make up \_\_\_\_\_ of the brain's cells.

- A) 10 percent
- B) 30 percent
- C) 60 percent
- D) 90 percent

Correct: *Correct. Ninety percent of the brain is composed of glial cells.*

Incorrect: *Incorrect. Neurons make up 10 percent of the cells in the brain.*

Answer: D

Type: MC      Page Ref: 46      Skill: Factual      Objective: 2.2

13) What are two roles of glial cells?

- A) acting as insulation and providing structure to surrounding neurons
- B) shaping cells and moving new neurons into place
- C) regulating metabolic activity and serving as pain detectors
- D) monitoring neural transmission and releasing hormones in the brain

Correct: *Correct. This answer defines two roles of glial cells.*

Incorrect: *Incorrect. Glial cells provide structure and insulation to neurons.*

Answer: A

Type: MC

Page Ref: 46

Skill: Conceptual

Objective: 2.2

14) Glial cells perform all of the following functions EXCEPT:

- A) receive and sends messages throughout the nervous system.
- B) deliver nutrients to neurons.
- C) clean up waste products and dead neurons.
- D) produce myelin to protect neurons.

Correct: *Correct. Glial cells deliver nutrients to neurons, clean up waste products and dead neurons, and produce myelin to protect neurons.*

Incorrect: *Incorrect. Only neurons send and receive messages throughout the nervous system.*

Answer: B

Type: MC

Page Ref: 46

Skill: Factual

Objective: 2.2

15) What is one of the functions of myelin?

- A) to serve as a structure for neurons
- B) to monitor neural activity
- C) to speed up the neural impulse
- D) to feed and provide nutrients to the neuron

Correct: *Correct. Myelin speeds up the neural impulse.*

Incorrect: *Incorrect. This is the function of glial cells, not myelin.*

Answer: C

Type: MC

Page Ref: 46

Skill: Conceptual

Objective: 2.2

16) One purpose of \_\_\_\_\_ is to speed up the neural message travelling down the axon.

- A) receptor sites
- B) the axon terminal
- C) myelin
- D) the synaptic vesicle

Correct: *Correct. Myelin speeds up the neural impulse.*

Incorrect: *Incorrect. The axon terminal does not speed up the neural impulse.*

Answer: C

Type: MC

Page Ref: 46

Skill: Conceptual

Objective: 2.2

17) A fatty substance that is wrapped around the shaft of axons in the nervous system and whose function is to insulate neurons and speed up the neural impulse is called a:

- A) synaptic vesicle.
- B) dendrite.
- C) glial cell.
- D) myelin cell.

Correct: *Correct. Myelin cells speed up the neural impulse.*

Incorrect: *Incorrect. Glial cells do not speed up the neural impulse.*

Answer: D

Type: MC      Page Ref: 46      Skill: Factual      Objective: 2.2

- 18) A group of axons bundled together coated in myelin that travels together through the body is called:
- A) myelin sheaths.
  - B) nerves.
  - C) the spinal cord.
  - D) a neural network.

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

Incorrect: *Incorrect. Myelin sheaths are myelin that wraps around the shaft of an axon, forming a protective and insulating sheath, like the plastic casing on a wire.*

Answer: B

Type: MC      Page Ref: 46      Skill: Factual      Objective: 2.2

- 19) A nerve is a group of \_\_\_\_\_ bundled together.
- A) axons
  - B) neurons
  - C) dendrites
  - D) glial cells

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

Incorrect: *Incorrect. Dendrites are part of the neuron.*

Answer: A

Type: MC      Page Ref: 46      Skill: Factual      Objective: 2.2

- 20) Damaged axons can be repaired in the body, but not in the brain or spinal cord. Only \_\_\_\_\_ cells generate axonal regrowth after an injury.
- A) Schwann cells *injury*.
  - B) neurons
  - C) stem cells
  - D) red blood cells

Correct: *Correct. Only Schwann cells can guide axonal regrowth after*

Incorrect: *Incorrect. Stem cells are special cells found in all the tissues of the body that are capable of manufacturing other cell types when those cells need to be replaced because of damage or wear and tear.*

Answer: A

Type: MC      Page Ref: 46      Skill: Knowledge      Objective: 2.2

- 21) What do we call the state of a neuron when it is not firing a neural impulse?
- A) action potential
  - B) resting potential
  - C) neutralized
  - D) hyperpolarized

Correct: *Correct. Resting potential is the state a neuron is in when not firing a neural impulse.*

Incorrect: *Incorrect. Action potential is the state a neuron is in when firing a neural impulse.*

Answer: B

Type: MC      Page Ref: 47      Skill: Factual      Objective: 2.2

22) 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.
- B) neutral potential.
- C) null potential.
- D) resting potential.

Correct: *Correct. Resting potential is the state a neuron is in when a cell is not firing a neural impulse.*

Incorrect: *Incorrect. Action potential is the state a neuron is in when firing.*

Answer: D

Type: MC      Page Ref: 48      Skill: Factual      Objective: 2.2

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

- A) positive compared to
- B) larger than
- C) negative compared to
- D) smaller than

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

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

Answer: A

Type: MC      Page Ref: 48      Skill: Conceptual      Objective: 2.2

24) "All or none" is the principle stating that:

- A) a neuron either fires or does not fire.
- B) a neuron fires at full strength or not at all.
- C) all the dendrites must be receiving messages telling the neuron to fire or it will not fire at all.
- D) all axons must be receiving messages telling the neuron to fire or it will not fire at all.

Correct: *Correct. A neuron either fires or does not fire.*

Incorrect: *Incorrect. Neurons can fire at different strengths.*

Answer: A

Type: MC      Page Ref: 49      Skill: Factual      Objective: 2.2

25) The branches at the end of the axon are called:

- A) axon terminals.
- B) synaptic vesicles.
- C) synapses.
- D) receptor sites.

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

Incorrect: *Incorrect. Synaptic vesicles are structures within the synaptic knobs.*

Answer: A

Type: MC      Page Ref: 50      Skill: Factual      Objective: 2.3

26) What is the term used to describe the branches located at the end of the axon?

- A) axon terminals
- B) synaptic vesicles
- C) dendrites
- D) receptor sites

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

Incorrect: *Incorrect. Synaptic vesicles are structures within the synaptic knobs.*

Answer: A

Type: MC      Page Ref: 50      Skill: Factual      Objective: 2.3

27) What is the term used to describe the rounded areas on the ends of the axon terminals?

- A) synaptic vesicles
- B) axons
- C) dendrites
- D) synaptic knobs

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

Incorrect: *Incorrect. Synaptic vesicles are structures within the synaptic knobs.*

Answer: D

Type: MC      Page Ref: 53

Objective: 2.3

28) The saclike structures found inside the synaptic knob containing chemicals are called:

- A) axon terminals.
- B) synaptic gaps.
- C) synaptic vesicles.
- D) receptor sites.

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

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

Answer: C

Type: MC

Page Ref: 50

Skill: Factual

Objective: 2.3

29) 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

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

Incorrect: *Incorrect. Terminal buttons are the same as synaptic knobs.*

Answer: A

Type: MC      Page Ref: 50      Skill: Factual      Objective: 2.3

30) A chemical found in the synaptic vesicles that, when released, has an effect on the next cell is called a:

- A) glial cell.
- B) neurotransmitter.
- C) precursor cell.
- D) synapse.

Correct: *Correct. Neurotransmitters are stored in the synaptic vesicles.*

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

Answer: B

Type: MC      Page Ref: 50      Skill: Factual      Objective: 2.3

31) The term *neurotransmitter* refers to:

- A) a chemical found in the synaptic vesicles that is released into the synapse.
- 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.
- D) the DNA contained in the nucleus of every neuron.

Correct: *Correct. Neurotransmitters are chemicals.*

Incorrect: *Incorrect. The neurotransmitter is found in the synaptic vesicle.*

Answer: A

Type: MC      Page Ref: 50      Skill: Factual      Objective: 2.3

32) The fluid-filled space between the synaptic knob of one cell and the dendrites of the next cell is called the:

- A) receptor site.
- B) synapse.
- C) synaptic knob.
- D) axon terminal.

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

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

Answer: B

Type: MC      Page Ref: 50      Skill: Factual      Objective: 2.3

33) The action potential causes neurotransmitters to be released into the:

- A) myelin sheath.
- B) axon.
- C) synapse.
- D) synaptic vesicle.

Correct: *Correct. Neurotransmitters are released into the synapse.*

Incorrect: *Incorrect. Neurotransmitters are stored in the synaptic vesicle.*

Answer: C

Type: MC      Page Ref: 50      Skill: Factual      Objective: 2.3

34) \_\_\_\_\_ are holes in the surface of the dendrites or certain cells of the muscles and glands that are shaped to fit only certain neurotransmitters.

- A) Neurotransmitters
- B) Axons
- C) Synaptic vesicles
- D) Receptor sites



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

Incorrect: *Incorrect. Neurotransmitters are stored in the synaptic vesicle.*

Answer: D

Type: MC      Page Ref: 51      Skill: Factual      Objective: 2.3

35) Which structure is like a locked door that only certain neurotransmitter keys can unlock?

- A) synapses
- B) receptor sites
- C) neural chiasms
- D) response terminals

Correct: *Correct. Only certain neurotransmitters can fit into receptor sites.*

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

Answer: B

Type: MC      Page Ref: 51      Skill: Conceptual      Objective: 2.3

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

- A) Excitatory; inhibitory
- B) Inhibitory; excitatory
- C) Agonists; antagonists
- D) Antagonists; agonists

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

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

Answer: A

Type: MC      Page Ref: 51      Skill: Conceptual      Objective: 2.3

37) 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
- D) dendrites, soma, axon, synaptic knob

Correct: *Correct. This answer describes the correct sequence.*

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

Answer: D

Type: MC      Page Ref: 50-51      Skill: Conceptual      Objective: 2.3

38) \_\_\_\_\_ plays a critical role as a neurotransmitter that stimulates muscles to contract.

- A) Acetylcholine
- B) GABA
- C) Dopamine
- D) Endorphin

Correct: *Correct. Acetylcholine is an excitatory neurotransmitter that stimulates muscles to contract.*

Incorrect: *Incorrect. GABA is an inhibitory neurotransmitter.*

Answer: A

Type: MC

Page Ref: 52

Skill: Factual

Objective: 2.4

39) 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
- B) dopamine
- C) serotonin
- D) acetylcholine

Correct: *Correct. Acetylcholine is found in a part of the brain responsible for forming new memories.*

Incorrect: *Incorrect. GABA has a tranquilizing effect.*

Answer: D

Type: MC

Page Ref: 52

Skill: Applied

Objective: 2.4

40) The poison of the black widow spider works by stimulating the release of excessive amounts of:

- A) acetylcholine.
- B) dopamine.
- C) endorphins.
- D) serotonin.

Correct: *Correct. The venom stimulates the release of excessive amounts of acetylcholine.*

Incorrect: *Incorrect. The venom works by stimulating the release of excessive amounts of acetylcholine.*

Answer: A

Type: MC

Page Ref: 52

Skill: Factual

Objective: 2.4

41) Curare is a poison that works by:

- A) blocking receptor sites and acting as an antagonist for acetylcholine.
- B) stimulating the release of excessive amounts of acetylcholine.
- C) stimulating the release of neurotransmitters.
- D) blocking the production of inhibitory neurotransmitters.

Correct: *Correct. This drug acts as an antagonist for acetylcholine.*

Incorrect: *Incorrect. This drug inhibits the release of acetylcholine.*

Answer: A

Type: MC

Page Ref: 52

Skill: Conceptual

Objective: 2.4

42) Which of the following neurotransmitters functions as a common inhibitory neurotransmitter in the brain?

- A) serotonin
- B) GABA
- C) acetylcholine
- D) norepinephrine

Correct: *Correct. GABA is an inhibitory neurotransmitter.*

Incorrect: *Incorrect. Acetylcholine is an excitatory neurotransmitter.*

Answer: B

Type: MC      Page Ref: 52      Skill: Factual      Objective: 2.4

43) GABA functions as a/an:

- A) major neurotransmitter involved in voluntary movements.
- B) inhibitory neurotransmitter in the brain.
- C) neurotransmitter responsible for slowing intestinal activity during stress.
- D) major excitatory neurotransmitter in the brain.

Correct: *Correct. GABA is an inhibitory neurotransmitter.*

Incorrect: *Incorrect. GABA is an inhibitory neurotransmitter.*

Answer: B

Type: MC      Page Ref: 52      Skill: Factual      Objective: 2.4

44) Alcohol stimulates the release of \_\_\_\_\_, which causes the general inhibition of the nervous system associated with getting drunk.

- A) GABA
- B) serotonin
- C) dopamine
- D) acetylcholine

Correct: *Correct. GABA is an inhibitory neurotransmitter.*

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

Answer: A

Type: MC      Page Ref: 52      Skill: Factual      Objective: 2.4

45) Which neurotransmitter is associated with sleep, mood, and appetite?

- A) GABA
- B) serotonin
- C) dopamine
- D) acetylcholine

Correct: *Correct. Serotonin is associated with mood, sleep, and appetite.*

Incorrect: *Incorrect. GABA is associated with helping calm anxiety.*

Answer: B

Type: MC      Page Ref: 52      Skill: Factual      Objective: 2.4

46) 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
- B) dopamine
- C) serotonin
- D) acetylcholine

Correct: *Correct. Serotonin is associated with mood and appetite.*

Incorrect: *Incorrect. GABA is involved in sleep and inhibits movement but is not associated with mood or appetite.*

Answer: C

Type: MC      Page Ref: 52      Skill: Applied      Objective: 2.4

47) Which neurotransmitter is associated with the control of the pain response?

- A) acetylcholine
- B) dopamine
- C) endorphins
- D) serotonin

Correct: *Correct. Endorphins are pain-controlling chemicals.*

Incorrect: *Incorrect. Serotonin is a neurotransmitter associated with sleep, mood, and appetite*

Answer: C

Type: MC      Page Ref: 52      Skill: Factual      Objective: 2.4

48) Special neurotransmitters that directly control the release of other neurotransmitters are called:

- A) neural peptides.
- B) reuptake inhibitors.
- C) neurotransmitter inhibitors.
- D) endorphins.

Correct: *Correct. These special neurotransmitters are called neural peptides.*

Incorrect: *Incorrect. Endorphins are one type of neural peptide.*

Answer: A

Type: MC      Page Ref: 53      Skill: Factual      Objective: 2.4

49) Morphine and other opiates are able to lock into receptor sites for \_\_\_\_\_ because they have similar chemical structures.

- A) GABA
- B) serotonin
- C) dopamine
- D) endorphins

Correct: *Correct. Endorphins are a natural substance that has the same effect as opiates.*

Incorrect: *Incorrect. Opiates are not able to lock into GABA receptor sites.*

Answer: D

Type: MC      Page Ref: 53      Skill: Factual      Objective: 2.4

50) Reuptake is:

- A) a chemical that is released into the synaptic gap.
- B) a protein molecule on the dendrite or cell body of a neuron that will interact only with specific neurotransmitters.
- C) a process by which neurotransmitters are sucked back into the synaptic vesicles.
- D) a chemical that plays a role in learning and attention.

Correct: *Correct. This is the definition of reuptake.*

Incorrect: *Incorrect. Reuptake is a process.*

Answer: C

Type: MC      Page Ref: 54      Skill: Factual      Objective: 2.4

51) How is acetylcholine removed from the synapse?

- A) It is broken down by an enzyme.
- B) It is taken back up in the synapse.
- C) It dissipates in the surrounding body fluids.
- D) Acetylcholine is one of the few neurotransmitters that is continually present in the synapse.

Correct: *Correct. It is broken down by an enzyme.*

Incorrect: *Incorrect. It is broken down by an enzyme.*

Answer: A

Type: MC      Page Ref: 54      Skill: Conceptual      Objective: 2.4

52) The brain and spinal cord are two components of the:

- A) central nervous system.
- B) somatic nervous system.
- C) peripheral nervous system.
- D) autonomic nervous system

Correct: *Correct. The brain and spinal cord are two components of the central nervous system.*

Incorrect: *Incorrect. The two components of the peripheral nervous system are the autonomic and somatic nervous systems.*

Answer: A

Type: MC      Page Ref: 55      Skill: Factual      Objective: 2.5

53) The central nervous system consists of:

- A) the parasympathetic and sympathetic divisions.
- B) the brain and spinal cord.
- C) muscles and glands.
- D) sense organs and sensory neurons.

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

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

Answer: B

Type: MC      Page Ref: 55      Skill: Factual      Objective: 2.5

54) 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) frontal cortex
- D) temporal lobes

Correct: *Correct. That is the responsibility of the brain.*

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

Answer: B

Type: MC      Page Ref: 55      Skill: Factual      Objective: 2.5

55) \_\_\_\_\_ carry/carries messages to and from the body to the brain and is/are responsible for a variety of lifesaving reflexes.

- A) The spinal cord

- B) The brain
- C) Sensory neurons
- D) Motor neurons

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

Incorrect: *Incorrect. The brain receives messages from the spinal cord.*

Answer: A

Type: MC      Page Ref: 55      Skill: Factual      Objective: 2.5

56) All of the following statements about the spinal cord are true EXCEPT:

- A) the purpose of the outer section is to carry messages to and from the brain and the body.
- B) the inside part of the spinal cord makes sense of the information received from the senses, makes decisions, and sends commands to the muscles and the rest of the body.
- C) the inside part of the spinal cord is a primitive brain responsible for certain very fast, life-saving reflexes.
- D) an analogy sometimes used to describe the primary function of the outer spinal cord is "pipeline."

Correct: *Correct. The functions described are attributed to the brain.*

Incorrect: *Incorrect. This is true.*

Answer: B

Type: MC      Page Ref: 55      Skill: Factual      Objective: 2.5

57) Which of the following are the three basic types of neurons?

- A) reflexes, sensory neurons, motor neurons
- B) sensory neurons, motor neurons, stem cells
- C) motor neurons, stem cells, reflexes
- D) interneurons, sensory neurons, motor neurons

Correct: *Correct. All of these are neurons.*

Incorrect: *Incorrect. Reflexes are not a type of neuron.*

Answer: D

Type: MC      Page Ref: 55      Skill: Factual      Objective: 2.5

58) Neurons that carry information from the senses to the spinal cord are called:

- A) motor neurons.
- B) interneurons.
- C) sensory neurons.
- D) efferent neurons.

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

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

Answer: C

Type: MC      Page Ref: 55      Skill: Factual      Objective: 2.5

59) 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
- C) sensory neuron

D) efferent neurons

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

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

Answer: C

Type: MC      Page Ref: 55      Skill: Applied      Objective: 2.5

60) 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
- B) interneurons
- C) sensory neurons
- D) afferent neurons

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

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

Answer: A

Type: MC      Page Ref: 55      Skill: Applied      Objective: 2.5

61) Neurons found in the centre 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.
- B) interneurons.
- C) sensory neurons.
- D) afferent neurons.

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

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

Answer: B

Type: MC      Page Ref: 55      Skill: Factual      Objective: 2.5

62) Which of the following are responsible for acting as a facilitator of communication between neurons?

- A) motor neurons
- B) interneurons
- C) sensory neurons
- D) efferent neurons

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

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

Answer: B

Type: MC      Page Ref: 55      Skill: Conceptual      Objective: 2.5

63) Cameron touches a hot iron and immediately pulls his hand away. His quick response occurs because:

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

- B) the brain has registered that pain is occurring and responds quickly.
- C) his glands have secreted rapid chemical messengers called hormones.
- D) neurons in the spinal cord touch end to end to increase response speed up the pathway.

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

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

Answer: A

Type: MC      Page Ref: 55      Skill: Applied      Objective: 2.5

- 64) 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.
  - C) The speed of processing is faster from the extremities to the brain.
  - D) The path that reflexes follow to the brain is direct and does not involve any neurotransmitters.

Correct: *Correct. The message goes to the central area of the spinal cord and not up to the brain.*

Incorrect: *Incorrect. The message involved does not have to go all the way to the brain.*

Answer: B

Type: MC      Page Ref: 55      Skill: Applied      Objective: 2.5

- 65) Researchers at McMaster University in Hamilton implanted \_\_\_\_\_ into mice with Parkinson's disease and amazingly the mice showed significant symptom improvement.
- A) blood cells
  - B) nerve cells
  - C) brain cells
  - D) stem cells

Correct: *Correct. Stem cells were able to repair damaged or diseased brain tissue.*

Incorrect: *Incorrect. Stem cells can create blood, nerve and brain cells.*

Answer: D

Type: MC      Page Ref: 57      Skill: Factual      Objective: Psychology in the News

- 66) The peripheral nervous system consists of:
- A) all the nerve cells that are not in the brain and spinal cord.
  - B) all nerves in the brain and the spinal cord.
  - C) the spinal cord and the voluntary muscles.
  - D) the brain and the involuntary muscles.

Correct: *Correct. The peripheral nervous system consists of all the nerve cells that are not in the brain and spinal cord.*

Incorrect: *Incorrect. The central nervous system consists of the brain and spinal cord.*

Answer: A

Type: MC      Page Ref: 58      Skill: Factual      Objective: 2.5

- 67) 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.



- B) central nervous system.
- C) somatic nervous system.
- D) autonomic nervous system.

Correct: *Correct. The peripheral nervous system allows the brain and spinal cord to communicate with the sensory systems and control the muscles and glands.*

Incorrect: *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.*

Answer: A

Type: MC      Page Ref: 58      Skill: Factual      Objective: 2.5

- 68) The peripheral nervous system consists of the \_\_\_\_\_ and the \_\_\_\_\_ nervous systems.
- A) autonomic; somatic
  - B) autonomic; sympathetic
  - C) parasympathetic; somatic
  - D) parasympathetic; sympathetic

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

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

Answer: A

Type: MC      Page Ref: 58      Skill: Conceptual      Objective: 2.5

- 69) Voluntary muscles are controlled by the \_\_\_\_\_ nervous system.
- A) somatic
  - B) autonomic
  - C) sympathetic
  - D) parasympathetic

Correct: *Correct. The somatic nervous system controls voluntary muscles.*

Incorrect: *Incorrect. The autonomic nervous system controls involuntary muscles.*

Answer: A

Type: MC      Page Ref: 58      Skill: Factual      Objective: 2.6

- 70) 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.
  - B) parasympathetic nervous system.
  - C) somatic nervous system.
  - D) central nervous system.

Correct: *Correct. This describes the somatic nervous system.*

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

Answer: C

Type: MC      Page Ref: 58      Skill: Factual      Objective: 2.6

- 71) 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

Correct: *Correct. The somatic nervous system controls voluntary muscle movement.*

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

Answer: B

Type: MC      Page Ref: 58      Skill: Applied      Objective: 2.6

72) 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
- D) somatic nervous system

Correct: *Correct. Turning out the light requires voluntary muscle movement.*

Incorrect: *Incorrect. Turning out the light requires voluntary muscle movement.*

Answer: D

Type: MC      Page Ref: 58-59      Skill: Applied      Objective: 2.6

73) Vladimir is typing on the computer keyboard. The motion of his fingers on the keys is probably being controlled by:

- A) the autonomic nervous system.
- B) afferent neurons.
- C) efferent neurons.
- D) autonomic neurons.

Correct: *Correct. Efferent neurons carry messages from the spinal cord to the muscles.*

Incorrect: *Incorrect. Afferent neurons carry messages from the senses to the spinal cord.*

Answer: C

Type: MC      Page Ref: 55      Skill: Applied      Objective: 2.5

74) Involuntary muscles are controlled by the \_\_\_\_\_ nervous system.

- A) somatic
- B) autonomic
- C) sympathetic
- D) parasympathetic

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

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

Answer: B

Type: MC      Page Ref: 59      Skill: Factual      Objective: 2.7

75) The subdivision of the peripheral nervous system that consists of nerves that control all the involuntary muscles, organs, and glands is called the \_\_\_\_\_ nervous system.

- A) somatic
- B) autonomic
- C) sympathetic
- D) parasympathetic

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

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

Answer: B

Type: MC      Page Ref: 59      Skill: Factual      Objective: 2.7

76) 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) sympathetic
- B) peripheral
- C) parasympathetic
- D) somatic

Correct: *Correct. The sympathetic nervous system part of the ANS that is responsible for reacting to stressful events and bodily arousal.*

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

Answer: A

Type: MC      Page Ref: 59      Skill: Applied      Objective: 2.7

77) The autonomic nervous system has two divisions called the \_\_\_\_\_ and the \_\_\_\_\_.

- A) central; peripheral
- B) sympathetic; parasympathetic
- C) somatic; peripheral
- D) sympathetic; somatic

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

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

Answer: B

Type: MC      Page Ref: 59      Skill: Factual      Objective: 2.7

78) Which component of the nervous system mobilizes the body in times of stress?

- A) central
- B) somatic
- C) sympathetic
- D) parasympathetic

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

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

Answer: C

Type: MC      Page Ref: 59      Skill: Conceptual      Objective: 2.7

79) 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

Correct: *Correct. The sympathetic nervous system is responsible for reacting to stressful events and bodily arousal.*

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

Answer: C

Type: MC      Page Ref: 59      Skill: Factual      Objective: 2.7

80) 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 \_\_\_\_\_ nervous system.

- A) somatic
- B) peripheral
- C) parasympathetic
- D) sympathetic

Correct: *Correct. The sympathetic nervous system is responsible for reacting to stressful events and bodily arousal.*

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

Answer: D

Type: MC      Page Ref: 59      Skill: Applied      Objective: 2.7

81) 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 \_\_\_\_\_ nervous system.

- A) central
- B) peripheral
- C) sympathetic
- D) parasympathetic

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

Incorrect: *Incorrect. The sympathetic nervous system is responsible for reacting to stressful events and bodily arousal.*

Answer: D

Type: MC      Page Ref: 62      Skill: Factual      Objective: 2.7

82) 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) central
- B) peripheral
- C) sympathetic
- D) parasympathetic

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

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

Answer: D

Type: MC      Page Ref: 62      Skill: Applied      Objective: 2.7

83) A researcher is performing "deep lesioning" on the brains of animal research subjects. Which of the following statements is not true about the procedure?

- A) Areas of the animal's brain are stimulated to observe how the neurons will react.
- B) Cells are destroyed in various areas of the brain to see what happens to the animal's abilities.
- C) The research procedure simulates brain damage or brain disorders in humans.
- D) A thin wire used to conduct electrical current is surgically inserted into an animal's brain.

Correct: *Correct. This is called electrical stimulation of the brain (ESB). Deep lesioning destroys cells.*

Incorrect: *Incorrect. Deep lesioning—inserting a thin wire into an animal's brain to conduct electrical current—destroys cells and simulates brain damage or disorders in humans.*

Answer: A

Type: MC      Page Ref: 62      Skill: Factual      Objective: 2.8

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

- A) deep lesioning.
- B) ESB.
- C) EEG.
- D) lobotomy.

Correct: *Correct. Deep lesioning destroys brain cells.*

Incorrect: *Incorrect. ESB stimulates brain cells.*

Answer: A

Type: MC      Page Ref: 62      Skill: Conceptual      Objective: 2.8

85) Insertion into the brain of a thin, insulated wire through which is sent an electrical current that stimulates the brain cells at the tip of the wire is called:

- A) deep lesioning.
- B) ESB.
- C) shallow lesioning.
- D) electroencephalograph.

Correct: *Correct. ESB stimulates brain cells.*

Incorrect: *Incorrect. Deep lesioning destroys brain cells.*

Answer: B

Type: MC      Page Ref: 62      Skill: Factual      Objective: 2.8

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

- A) PET scan
- B) ESB
- C) EEG

D) CT scan

Correct: *Correct. EEG records brain wave patterns.*

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

Answer: C

Type: MC      Page Ref: 63      Skill: Factual      Objective: 2.8

87) Canadian Dr. Wilder Penfield unlocked many mysteries of the brain. Which disease/disorder experienced the most help as a result of Penfield's work?

- A) Alzheimer's
- B) epilepsy
- C) Parkinson's
- D) addictions

Correct: *Correct. Penfield saw epilepsy as a short-circuit in the brain*

Incorrect: *Incorrect. Penfield is associated with epilepsy.*

Answer: B

Type: MC      Page Ref: 62      Skill: Factual      Objective: 2.8

88) Canadian Dr. Wilder Penfield is known for developing the \_\_\_\_\_ as a result of his effort to treat patients suffering with epilepsy.

- A) PET scan
- B) CT scan
- C) EEG
- D) Montréal procedure

Correct: *Correct. Penfield saw epilepsy as a short-circuit in the brain*

Incorrect: *Incorrect. The PET Scan was invented in 1973 by Michael E. Phelps.*

Answer: D

Type: MC      Page Ref: 62      Skill: Factual      Objective: 2.8

89) Which equipment is used to monitor brain waves?

- A) CT scans
- B) functional magnetic resonance imaging
- C) PET scan
- D) electroencephalograph

Correct: *Correct. Electroencephalographs monitor brain waves.*

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

Answer: D

Type: MC      Page Ref: 62      Skill: Factual      Objective: 2.8

90) Small metal disks pasted onto Miranda's scalp 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/an:

- A) CT scan.
- B) MRI.
- C) PET scan.
- D) EEG.

Correct: *Correct. Electroencephalographs record brain wave patterns.*

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

Answer: D

Type: MC      Page Ref: 62      Skill: Applied      Objective: 2.8

91) A brain-imaging method that takes computer-controlled X-rays of the brain is called:

- A) electroencephalography (EEG).
- B) magnetic resonance imaging (MRI).
- C) positron-emission tomography (PET).
- D) computerized axial tomography (CT).

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

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

Answer: D

Type: MC      Page Ref: 63      Skill: Factual      Objective: 2.8

92) 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)
- C) positron-emission tomography (PET)
- D) computerized axial tomography (CT)

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

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

Answer: D

Type: MC      Page Ref: 63      Skill: Applied      Objective: 2.8

93) 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).
- C) positron-emission tomography (PET).
- D) computerized axial tomography (CT).

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

Incorrect: *Incorrect. CT scans use X-rays.*

Answer: B

Type: MC      Page Ref: 64      Skill: Applied      Objective: 2.8

94) 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)
- C) computerized axial tomography (CT)
- D) positron-emission tomography (PET)

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

Incorrect: *Incorrect. CT scans uses X-rays.*

Answer: B

Type: MC      Page Ref: 64      Skill: Applied      Objective: 2.8

95) 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) computerized axial tomography (CT)
- C) positron-emission tomography (PET)
- D) functional magnetic resonance imaging (fMRI)

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

Incorrect: *Incorrect. PET provides a colour-coded image of the activity of the brain, not moving images of the brain.*

Answer: D

Type: MC      Page Ref: 64      Skill: Applied      Objective: 2.8

96) Which of the following is a brain-imaging method in which radioactive sugar is injected into the subject and a computer compiles a colour-coded image of the activity of the brain, with lighter colours indicating more activity?

- A) electroencephalography (EEG)
- B) computerized axial tomography (CT)
- C) positron-emission tomography (PET)
- D) functional magnetic resonance imaging (fMRI)

Correct: *Correct. PET scan provides a colour-coded image of the activity of the brain.*

Incorrect: *Incorrect. fMRI does not involve radioactive sugar or colour-coding.*

Answer: C

Type: MC      Page Ref: 64      Skill: Factual      Objective: 2.8

97) Libby's physician refers her to a medical centre in order to have the biochemical activity in her brain analyzed. She is given an injection of a radioactive glucoselike substance and then is told to lie down with her head in a scanner. The technique being used is:

- A) positronic emission tomography.
- B) functional magnetic resonance imaging.
- C) microelectrode recording.
- D) an electroencephalograph.

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

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

Answer: A

Type: MC      Page Ref: 64      Skill: Applied      Objective: 2.8

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

- A) reticular formation
- B) pons
- C) medulla
- D) cerebellum



Correct: *Correct. The medulla is responsible for life-sustaining functions.*

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

Answer: C

Type: MC

Page Ref: 64

Skill: Factual

Objective: 2.9

99) The point at which the sensory nerves from the left side of the body cross over into the right side of the brain, and vice versa, is the:

- A) reticular formation.
- B) pons.
- C) medulla.
- D) cerebellum.

Correct: *Correct. This is the point where nerves cross over.*

Incorrect: *Incorrect. The pons connects the top of the brain to the bottom.*

Answer: C

Type: MC

Page Ref: 65

Skill: Factual

Objective: 2.9

100) 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
- B) medulla
- C) cerebellum
- D) reticular formation

Correct: *Correct. The medulla is responsible for breathing.*

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

Answer: B

Type: MC

Page Ref: 65

Skill: Applied

Objective: 2.9

101) The \_\_\_\_\_ is a structure in the brain stem that connects the top of the brain to the bottom and plays a role in sleep, dreaming, left-right body coordination, and arousal.

- A) reticular activating system
- B) pons
- C) medulla
- D) cerebellum

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

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

Answer: B

Type: MC

Page Ref: 65

Skill: Factual

Objective: 2.9

102) 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.
- B) pons.
- C) medulla.
- D) cerebellum.

Incorrect: *Incorrect. The hippocampus is responsible for the formation of long-term memory and does not play a role in keeping people awake and alert.* Correct: *Correct. The pons plays a role in sleep, dreaming, and arousal.*

Answer: B

Type: MC      Page Ref: 65      Skill: Applied      Objective: 2.9

103) 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
- B) pons
- C) medulla
- D) cerebellum

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

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

Answer: B

Type: MC      Page Ref: 65      Skill: Factual      Objective: 2.9

104) What is the main function of the reticular formation?

- A) to control thinking
- B) to regulate emotions
- C) to control levels of alertness
- D) to coordinate involuntary rapid fine-motor movements

Correct: *Correct. The reticular formation controls levels of alertness.*

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

Answer: C

Type: MC      Page Ref: 65      Skill: Factual      Objective: 2.9

105) 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
- B) pons
- C) medulla
- D) cerebellum

Correct: *Correct. The reticular formation is responsible for selective attention.*

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

Answer: A

Type: MC      Page Ref: 65      Skill: Applied      Objective: 2.9

106) The cerebellum:

- A) controls blood pressure.
- B) is involved in emotional regulation.
- C) coordinates involuntary rapid fine-motor movement.
- D) relays messages from the sensory receptors.

Correct: *Correct. The cerebellum does coordinate involuntary rapid fine-motor movement.*  
Incorrect: *Incorrect. The cerebellum coordinates involuntary rapid fine-motor movement.*  
Answer: C

Type: MC      Page Ref: 66      Skill: Factual      Objective: 2.9

- 107) Which of the following brain areas coordinates involuntary rapid fine-motor movement?
- A) medulla
  - B) pons
  - C) reticular formation
  - D) cerebellum

Correct: *Correct. The cerebellum coordinates involuntary rapid fine-motor movement.*  
Incorrect: *Incorrect. The reticular formation is not involved in movement.*  
Answer: D

Type: MC      Page Ref: 66      Skill: Factual      Objective: 2.9

- 108) Damage to the cerebellum is likely to disrupt which of the following?
- A) playing basketball
  - B) sleeping
  - C) homeostasis
  - D) thinking

Correct: *Correct. The cerebellum coordinates movements that have to happen in rapid succession.*  
Incorrect: *Incorrect. The pons plays a role in sleep and dreaming, not in movement.*  
Answer: A

Type: MC      Page Ref: 66      Skill: Applied      Objective: 2.9

- 109) Which of the following is a group of several brain structures located under the cortex and is involved in learning, emotion, memory, and motivation?
- A) limbic system
  - B) cerebellum
  - C) cerebral cortex
  - D) cerebrum

Correct: *Correct. This structure is involved in learning, memory, emotion, and motivation.*  
Incorrect: *Incorrect. The cerebrum consists of the cerebral hemispheres and connecting structures.*  
Answer: A

Type: MC      Page Ref: 66      Skill: Factual      Objective: 2.10

- 110) The structures of the limbic system play an important role in \_\_\_\_\_ and \_\_\_\_\_.
- A) heart rate; breathing
  - B) thinking; decision making
  - C) memory; emotion
  - D) spatial tasks; coordination

Correct: *Correct. These structures play a role in memory and emotion.*  
Incorrect: *Incorrect. The limbic system does not play an important role in these tasks.*

Answer: C

Type: MC      Page Ref: 66      Skill: Factual      Objective: 2.10

111) What part of the brain acts as a relay station for incoming sensory information?

- A) hypothalamus
- B) thalamus
- C) cerebellum
- D) pituitary gland

Correct: *Correct. The thalamus acts as a relay station.*

Incorrect: *Incorrect. The hypothalamus regulates sleep, hunger, thirst, and sex.*

Answer: B

Type: MC      Page Ref: 66      Skill: Factual      Objective: 2.10

112) Which sense does NOT send signals to the cortex via the thalamus?

- A) hearing
- B) smell
- C) taste
- D) vision

Correct: *Correct. 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.*

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

Answer: B

Type: MC      Page Ref: 67      Skill: Factual      Objective: 2.10

113) Which small but extremely powerful part of the brain controls the pituitary gland?

- A) hippocampus
- B) thalamus
- C) hypothalamus
- D) amygdala

Correct: *Correct. The hypothalamus is very small but extremely powerful and controls the pituitary gland.*

Incorrect: *Incorrect. The thalamus acts as a relay station for incoming sensory information.*

Answer: C

Type: MC      Page Ref: 67      Skill: Factual      Objective: 2.10

114) Eating, drinking, sexual behaviour, sleeping, and temperature control are most strongly influenced by the:

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

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

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

Answer: C

Type: MC      Page Ref: 67      Skill: Factual      Objective: 2.10

115) Which of the following is a likely effect of damage to the hypothalamus?

- A) loss of muscle strength and coordination
- B) deregulation of hormones
- C) development of aphasia
- D) reduced ability to reason

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

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

Answer: B

Type: MC      Page Ref: 67      Skill: Conceptual      Objective: 2.10

116) Neurosurgeon Dr. Andres Lozano of Toronto Western Hospital made an unexpected discovery while treating a morbidly obese patient. Stimulation of the patient's hypothalamus led to:

- A) the patient losing the use of their left arm.
- B) the patient losing all interest in food.
- C) the patient vividly re-experiencing a memory from 20 to 30 years ago.
- D) the patient temporarily developing symptoms similar to Alzheimer's disease.

Correct: *Correct. What was unexpected was that the hypothalamus is not traditionally thought of as a memory centre*

Incorrect: *Incorrect. Although he was trying to locate the area in of the hypothalamus that would help suppress the man's appetite*

Answer: C

Type: MC      Page Ref: 67      Skill: Conceptual      Objective: 2.10

117) The \_\_\_\_\_ is the part of the brain responsible for the formation of long-term memories.

- A) hippocampus
- B) hypothalamus
- C) thalamus
- D) amygdala

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

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

Answer: A

Type: MC      Page Ref: 68      Skill: Factual      Objective: 2.10

118) If you have a problem remembering things that happened a year ago, doctors might check for damage to the \_\_\_\_\_ area of the brain.

- A) hippocampus
- B) hypothalamus
- C) thalamus
- D) amygdala

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

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

Answer: A

Type: MC      Page Ref: 68      Skill: Applied      Objective: 2.10

119) People suffering from Alzheimer's disease have much lower levels of acetylcholine in the \_\_\_\_\_ part of the brain.

- A) hippocampus
- B) hypothalamus
- C) Wernicke's area
- D) amygdala

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

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

Answer: A

Type: MC      Page Ref: 68      Skill: Factual      Objective: 2.10

120) 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
- C) thalamus
- D) amygdala

Correct: *Correct. The amygdala is responsible for fear responses and memory of fear.*

Incorrect: *Incorrect. The hypothalamus regulates sleep, hunger, thirst, and sex, not fear responses.*

Answer: D

Type: MC      Page Ref: 68      Skill: Factual      Objective: 2.10

121) Rats that have damage to the \_\_\_\_\_ will show no fear when placed next to a cat.

- A) hippocampus
- B) hypothalamus
- C) temporal lobes
- D) amygdala

Correct: *Correct. The amygdala is responsible for fear responses and memory of fear.*

Incorrect: *Incorrect. An experiment with monkeys who had large parts of their temporal lobes including the amygdala also showed no fear to normal fear producing stimuli. However, in the rat experiment, only the amygdala structures were damaged.*

Answer: D

Type: MC      Page Ref: 68      Skill: Factual      Objective: 2.10

122) The \_\_\_\_\_ instantly assesses anger or threat.

- A) amygdala
- B) medulla
- C) temporal lobes
- D) parietal lobe

Correct: *Correct. The amygdala is responsible for fear responses and memory of fear.*

Incorrect: *Incorrect. The temporal lobes are primarily responsible for the sense of hearing and meaningful speech*

Answer: A

Type: MC      Page Ref: 68      Skill: Factual      Objective: 2.10

123) The outermost part of the brain that is made up of tightly packed neurons and is only about 2 to 3 millimetres thick on average is called the:

- A) amygdala.
- B) medulla.
- C) cerebellum.
- D) cortex.

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

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

Answer: D

Type: MC      Page Ref: 69      Skill: Factual      Objective: 2.10

124) The cortex is divided into two sections referred to as:

- A) cerebral hemispheres.
- B) cerebellums.
- C) corpus callosums.
- D) neurotransmitters.

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

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

Answer: A

Type: MC      Page Ref: 73      Skill: Factual      Objective: 2.11

125) The thick band of neurons that connects the right and left cerebral hemispheres is called the:

- A) cortex.
- B) cerebrum.
- C) corpus callosum.
- D) cerebellum.

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

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

Answer: C

Type: MC      Page Ref: 69      Skill: Factual      Objective: 2.11

126) Which of the following is the section of the brain located at the rear and bottom of each cerebral hemisphere and contains the visual centres of the brain?

- A) occipital lobe
- B) parietal lobe
- C) temporal lobe
- D) frontal lobe

Correct: *Correct. The occipital lobes contain the visual centres of the brain.*

Incorrect: *Incorrect. The parietal lobe contains the somatosensory cortex, not the visual centres.*

Answer: A

Type: MC      Page Ref: 69      Skill: Factual      Objective: 2.11

- 127) 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
  - B) parietal
  - C) temporal
  - D) frontal

Correct: *Correct. The occipital lobes contain the visual centres of the brain.*

Incorrect: *Incorrect. The parietal lobes contain the somatosensory cortex, not the visual centres.*

Answer: A

Type: MC      Page Ref: 69      Skill: Applied      Objective: 2.11

- 128) Which of the following regions contains the primary visual cortex?
- A) occipital lobe
  - B) parietal lobe
  - C) temporal lobe
  - D) frontal lobe

Correct: *Correct. The occipital lobes contain the primary visual cortex.*

Incorrect: *Incorrect. The parietal lobes contain the somatosensory cortex, not the primary visual cortex.*

Answer: A

Type: MC      Page Ref: 69      Skill: Factual      Objective: 2.11

- 129) The part of the occipital lobe that is responsible for receiving visual information from the eyes is called the:
- A) primary visual cortex.
  - B) somatosensory cortex.
  - C) temporal lobe.
  - D) frontal lobe.

Correct: *Correct. The occipital lobes contain the primary visual cortex.*

Incorrect: *Incorrect. The parietal lobes contain the somatosensory cortex.*

Answer: A

Type: MC      Page Ref: 69      Skill: Factual      Objective: 2.11

- 130) The section of the brain responsible for interpreting the visual information in the primary visual cortex is called the:
- A) visual association cortex.
  - B) somatosensory cortex.
  - C) temporal lobe.
  - D) frontal lobe.

Correct: *Correct. This part of the brain is responsible for interpreting visual information.*

Incorrect: *Incorrect. The somatosensory cortex processes information from the skin and internal body receptors for touch, temperature, and body position, not visual information.*

Answer: A

Type: MC      Page Ref: 70      Skill: Factual      Objective: 2.11



- 131) Damage to the \_\_\_\_\_ would result in an inability to identify and comprehend what is seen through the eyes.
- A) visual association cortex
  - B) primary visual cortex
  - C) temporal lobe
  - D) frontal lobe

Correct: *Correct. This part of the brain is responsible for interpreting visual information.*

Incorrect: *Incorrect. The primary visual cortex receives visual information from the eyes but does not interpret it.*

Answer: A

Type: MC

Page Ref: 70

Skill: Conceptual

Objective: 2.11

- 132) Which of the following regions contains the somatosensory cortex?
- A) occipital lobe
  - B) parietal lobe
  - C) temporal lobe
  - D) frontal lobe

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

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

Answer: B

Type: MC

Page Ref: 70

Skill: Factual

Objective: 2.11

- 133) The \_\_\_\_\_ lobes are located at the top and back of each cerebral hemisphere, containing the centres for touch, body position, and temperature.
- A) frontal
  - B) temporal
  - C) occipital
  - D) parietal

Correct: *Correct. The parietal lobes contain the centres for touch, body position, and temperature.*

Incorrect: *Incorrect. The temporal lobes are responsible for the sense of hearing and meaningful speech, not for touch, body position, or temperature.*

Answer: D

Type: MC

Page Ref: 70

Skill: Factual

Objective: 2.11

- 134) Darla was in an automobile accident that resulted in an injury to her brain. Her sense of touch has been affected. Which part of the brain is the most likely site of the damage?
- A) frontal lobes
  - B) temporal lobes
  - C) occipital lobes
  - D) parietal lobes

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

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

Answer: D

Type: MC

Page Ref: 70

Skill: Applied

Objective: 2.11

135) Which of the following regions of the brain contains the auditory cortex?

- A) temporal lobes
- B) parietal lobes
- C) frontal lobes
- D) occipital lobes

Correct: *Correct. The temporal lobes contain the auditory cortex.*

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

Answer: A

Type: MC

Page Ref: 70-71

Skill: Factual

Objective: 2.11

136) 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.
- B) parietal lobes.
- C) frontal lobes.
- D) occipital lobes.

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

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

Answer: A

Type: MC

Page Ref: 70-71

Skill: Factual

Objective: 2.11

137) Which of the following lobes are involved in planning, memory, and personality?

- A) temporal
- B) parietal
- C) frontal
- D) occipital

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

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

Answer: C

Type: MC

Page Ref: 71

Skill: Factual

Objective: 2.11

138) Marcus 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
- B) parietal
- C) frontal
- D) occipital

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

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

Answer: C

Type: MC

Page Ref: 71

Skill: Applied

Objective: 2.11

139) Messages from the brain to the muscles and glands in the body begin their journey in the:

- A) auditory association area.
- B) motor cortex.
- C) association areas.
- D) somatosensory cortex.

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

Incorrect: *Incorrect. This area is not involved with muscles and glands.*

Answer: B

Type: MC

Page Ref: 71-72

Skill: Factual

Objective: 2.11

140) 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
- C) association areas
- D) somatosensory cortex

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

Incorrect: *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.*

Answer: B

Type: MC

Page Ref: 71-72

Skill: Applied

Objective: 2.11

141) Incoming sensory messages are made sense of in:

- A) Broca's area.
- B) the motor projection areas.
- C) the association areas.
- D) Wernicke's area.

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

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

Answer: C

Type: MC

Page Ref: 72

Skill: Conceptual

Objective: 2.12

142) The area of the frontal lobe that is devoted to the production of fluent speech is:

- A) Broca's area.
- B) somatosensory cortex.
- C) Wernicke's area.
- D) right hemisphere.

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

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

Answer: A

Type: MC

Page Ref: 72

Skill: Factual

Objective: 2.12

- 143) Bill was admitted to the hospital last week after he fell. When Bill's son visited, he found his father was unable to get words out in a smooth, connected fashion. If Bill's difficulty speaking is due to brain damage, what is the likely location of the damage?
- A) Broca's area
  - B) right hemisphere
  - C) Wernicke's area
  - D) somatosensory cortex

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

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

Answer: A

Type: MC      Page Ref: 72      Skill: Applied      Objective: 2.12

- 144) Former WWE Champion Chris Benoit Killed himself and his family in his Edmonton home in what officials declared a \_\_\_\_\_, which resulted from elevated levels of testosterone in his body.
- A) disinhibition episode
  - B) "roid rage"
  - C) drug-induced psychotic episode
  - D) amygdala hijacking

*Correct: Correct: Roids is slang for steroid. This condition sometimes occurs after long-time and heavy users of anabolic steroids.*

Answer: B

Type: MC      Page Ref: 73      Skill: Factual      Objective: 12.2

- 145) 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
  - B) corpus callosum
  - C) Wernicke's
  - D) somatosensory cortex

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

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

Answer: C

Type: MC      Page Ref: 74      Skill: Factual      Objective: 2.12

- 146) 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

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

*Incorrect: Incorrect. The cerebellum is at the base of the skull, not the upper part of the brain.*

Answer: B

Type: MC      Page Ref: 74      Skill: Factual      Objective: 2.13

- 147) 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.
  - D) left hemisphere.

Correct: *Correct. For most people the left hemisphere controls language.*

Incorrect: *Incorrect. The right hemisphere does not control language for most people.*

Answer: D

Type: MC      Page Ref: 75      Skill: Applied      Objective: 2.13

- 148) 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

Correct: *Correct. These are functions of the right hemisphere.*

Incorrect: *Incorrect. This is a function of the left hemisphere.*

Answer: A

Type: MC      Page Ref: 75      Skill: Conceptual      Objective: 2.13

- 149) Endocrine glands:
- A) secrete hormones directly into the bloodstream.
  - B) are chemicals released into the bloodstream.
  - C) are the master glands that produce human growth hormone.
  - D) are glands in the body whose primary role is to regulate metabolism.

Correct: *Correct. Endocrine glands do secrete hormones.*

Incorrect: *Incorrect. Glands are not chemicals; they are organs that secrete chemicals.*

Answer: A

Type: MC      Page Ref: 77      Skill: Factual      Objective: 2.14

- 150) Chemicals released into the bloodstream by the endocrine glands are called:
- A) corticoids.
  - B) hormones.
  - C) pheromones.
  - D) endorphins.

Correct: *Correct. This is the definition of hormones.*

Incorrect: *Incorrect. Corticoids are a group of 30 plus different hormones that regulate salt intake, affect stress reactions, and provide a source of sex hormones*

Answer: B

Type: MC      Page Ref: 76      Skill: Factual      Objective: 2.14

- 151) Which endocrine gland controls all of the other endocrine glands?
- A) thyroid

- B) adrenal
- C) pineal
- D) pituitary

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

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

Answer: D

Type: MC      Page Ref: 77      Skill: Factual      Objective: 2.14

152) 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.

Correct: *Correct. The pineal gland secretes melatonin.*

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

Answer: A

Type: MC      Page Ref: 78      Skill: Factual      Objective: 2.14

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

- A) adrenal
- B) pituitary
- C) thyroid
- D) pancreas

Correct: *Correct. The thyroid gland regulates metabolism.*

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

Answer: C

Type: MC      Page Ref: 78      Skill: Applied      Objective: 2.14

154) 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
- B) pituitary
- C) thyroid
- D) pancreas

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

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

Answer: D

Type: MC      Page Ref: 78      Skill: Applied      Objective: 2.14

155) The sex glands, which secrete hormones that regulate sexual development and behaviour as well as reproduction, are called:

- A) ovaries.
- B) the gonads.
- C) the pineal glands.
- D) testes.

Correct: *Correct. Gonads are sex glands.*

Incorrect: *Incorrect. Gonads including BOTH the ovaries and testes.*

Answer: B

Type: MC      Page Ref: 78      Skill: Factual      Objective: 2.14

156) 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
- B) pineal glands
- C) thyroid gland
- D) the gonads

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

Incorrect: *Incorrect. The gonads only secrete sex hormones.*

Answer: A

Type: MC      Page Ref: 78      Skill: Factual      Objective: 2.14

157) Zackary winces and ducks as he watches a WFC match. Which factor best explains his response?

- A) imitation
- B) mirror neurons
- C) instinct
- D) amygdala activation

Correct: *Correct. neurons that fire when an animal or person performs an action and also when an animal or person observes that same action being performed by another.*

Incorrect: *Incorrect. Imitation involves watching. Mirror neurons fire the same way when watching as doing.*

Answer: B

Type: MC      Page Ref: 79      Skill: Factual      Objective: 2.14

158) Which neural disorder may be caused and potentially helped by mirror neurons?

- A) Parkinson's
- B) autism
- C) Alzheimer's
- D) aphasia

Correct: *Correct. Newer research seems to suggest that autism may be caused at least in part due to a faulty mirror system in the brain.*

Incorrect: *Incorrect. Parkinson's is a degenerative brain disease that is affected by dopamine levels.*

Answer: B

Type: MC      Page Ref: 79      Skill: Factual      Objective: 2.14

159) List the three main parts of the neuron and explain the role each plays in the transmission of neural communication.

*Type: Essay                      Page Ref: 45                      Objective: 2.2*

160) List two different functions of glial cells.

*Type: Essay                      Page Ref: 46                      Objective: 2.2*

161) What is a synapse?

*Type: Essay                      Page Ref: 50                      Objective: 2.3*

162) What are neurotransmitters?

*Type: Essay                      Page Ref: 50                      Objective: 2.3*

163) Name three neurotransmitters and their functions.

*Type: Essay                      Page Ref: 51                      Objective: 2.4*

164) What is the difference between the sympathetic and parasympathetic nervous systems?

*Type: Essay                      Page Ref: 59-61                      Objective: 2.7*

165) How does an MRI (magnetic resonance imaging) scan allow the exploration of the brain without the injection of chemicals?

*Type: Essay                      Page Ref: 64                      Objective: 2.8*

166) What are the differences in how the right and left cerebral hemispheres function?

*Type: Essay                      Page Ref: 74-76                      Objective: 2.13*

167) 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.

*Type: Essay                      Page Ref: 76-78                      Objective: 2.14*

168) What is a neuron? Describe the three parts of a neuron and their functions. What is the relationship between neurons and glia? 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.

*Type: Essay                      Page Ref: 45–50                      Objective: 2.2-2.4*



169) 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.

*Type: Essay*

*Page Ref: 59-61*

*Objective: 2.6*

170) Describe the central nervous system? What are the two parts of the CNS and describe their functions? How are the functions similar or dissimilar?

*Type: Essay*

*Page Ref: 55-57*

*Objective: 2.5*

171) 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.

*Type: Essay*

*Page Ref: 62-64*

*Objective: 2.8*

172) How does the endocrine system influence behaviour? Describe the functions of three glands and the impact of the hormones each secretes.

*Type: Essay*

*Page Ref: 76-78*

*Objective: 2.14*

173) Describe how mirror neurons operate. Identify specifically how mirror neurons affect autism.

*Type: Essay*

*Page Ref: 79-80*

*Objective: 2.14*