Chapter 02: The Biological Perspective

Chapter 02 Multiple Choice Questions

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

   soma
   synapse
   nervous system
   endorphins

Difficulty: 1
QuestionID: 02-1-01
Page-Reference: 42
Topic: An Overview of the Nervous System
Skill: F
Objective: 2.1

Answer: nervous system

2. **The nervous system is defined as _____.**

   a complex network of cells that carries information to and from all parts of the body
   a specialized cell that makes up the brain and nervous system
   all nerves and neurons that are not contained in the brain and spinal cord but that run throughout the body itself
   a gland located in the brain that secretes human growth hormone

Difficulty: 1
QuestionID: 02-1-02
Page-Reference: 42
Topic: An Overview of the Nervous System
Skill: F
Objective: 2.1

Answer: a complex network of cells that carries information to and from all parts of the body

3. **The two main divisions of the nervous system are the _____ and _____.**

   brain; spinal cord
   autonomic nervous system; somatic nervous system
   peripheral nervous system; central nervous system
   glands; muscles

Difficulty: 1
QuestionID: 02-1-03
Page-Reference: 42
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: peripheral nervous system; central nervous system

4. **The branch of life sciences that involves the structure and function of the brain and nervous system, while also focusing on the relationship between learning and behaviour, is called _____.**
   neuroscience
   bioscience
   brain scientology
   neurostemology

Difficulty: 1
QuestionID: 02-1-04
Page-Reference: 42
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: neuroscience

5. **A specialized cell that makes up the nervous system and that receives and sends messages within that system is called a _____.**
   glial cell
   neuron
   cell body
   myelin sheath

Difficulty: 1
QuestionID: 02-1-05
Page-Reference: 42
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: neuron

6. **What term is used to describe a specialized cell that makes up the nervous system and that receives and sends messages within that system?**
   neuron
   glial cell
   myelin sheath
   dendritic spine

Difficulty: 1
QuestionID: 02-1-06
Page-Reference: 42
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: neuron

7. **The part of the neuron whose name literally means "branch" is _____.**

   axon
   dendrite
   myelin
   soma

Difficulty: 1
QuestionID: 02-1-07
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: dendrite

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

axons
nerve bundles
dendrites
synapses

Difficulty: 1
QuestionID: 02-1-08
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: dendrites

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

axon
soma
dendrite
cell membrane

Difficulty: 2
QuestionID: 02-1-09
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: soma

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

axon
cell membrane
dendrite
soma

Difficulty: 1
QuestionID: 02-1-10
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: soma

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

    soma
    axon
    dendrite
    cell membrane

Difficulty: 1
QuestionID: 02-1-11
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: axon

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

    carry messages to other cells
    regulate the neuron's life processes
    receive messages from neighbouring neurons
    insulate against leakage of electrical impulses

Difficulty: 2
QuestionID: 02-1-12
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: carry messages to other cells

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

    Axons; dendrites
    Axons; soma
    Soma; glial cells
    Dendrites; axons

Difficulty: 2
QuestionID: 02-1-13
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.1

Answer: Dendrites; axons

14. **Dendrite is to axon as**

    send is to receive.
    send is to regulate.
    receive is to send.
    receive is to release.

Difficulty: 2
QuestionID: 02-1-14
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.1

Answer: receive is to send.

15. **It is now believed that neurons make up between _____ percent of the brain, whereas glial cells make up _____ percent.**

    10 and 50; 50
    5 and 10; 20
    60 and 70; 30
    80 and 90; 10

Difficulty: 2
QuestionID: 02-1-15
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: 10 and 50; 50

16. **Glial cells are now believed to make up _____ of the brain's cells.**

    10 percent
    70 percent
    50 percent
    90 percent

Difficulty: 3
QuestionID: 02-1-16
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: 50 percent

17. **What are two roles of glial cells?**

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

Difficulty: 3
QuestionID: 02-1-17
Page-Reference: 43-44
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.1

Answer: acting as insulation and providing structure to surrounding neurons

18. **Two types of glial cells, called _____ and _____, generate myelin.**

occipital; lobitical
oligodendrocytes; Schwann cells
occipital; Schwann cells
oligodendrocytes; lobitical

Difficulty: 3
QuestionID: 02-1-18
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: oligodendrocytes; Schwann cells

19. **A cell in the human nervous system whose primary function is to provide insulation and structure for neurons on which they may develop and work is called a(n) _____.**

epidermal cell
adipose cell
glial cell
myelin cell

Difficulty: 2
QuestionID: 02-1-19
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: glial cell

20. **What is the function of myelin?**

to serve as a structure for neurons
to monitor neural activity
to speed up the neural impulse
to produce neurotransmitters

Difficulty: 2
QuestionID: 02-1-20
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.1

Answer: to speed up the neural impulse

21. **A fatty substance wrapped around the shaft of axons in the nervous system and whose function is to insulate neurons and speed up the neural impulse is called (a) _____.**

synaptic vesicle
dendrite
glial cell
myelin

Difficulty: 2
QuestionID: 02-1-21
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: myelin

22. **Which of the following is true about myelin?**

It is a fatty substance.
It is covered by axons.
It inhibits neural communication.
It slows down neuronal operations.

Difficulty: 2
QuestionID: 02-1-22
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: It is a fatty substance.

23. **One purpose of the _____ is to speed up the neural message travelling down the axon.**

receptor site
axon terminal
myelin
synaptic vesicle

Difficulty: 2
QuestionID: 02-1-23
Page-Reference: 43
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.1

Answer: myelin

24. **Groups of myelin-coated axons that travel together through the body are called _____.**

    a synaptic vesicle
    nerves
    neurilemma
    a myelinated pathway

Difficulty: 1
QuestionID: 02-1-24
Page-Reference: 44
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: nerves

25. **A nerve is a group of _____ bundled together.**

    axons
    interneurons
    dendrites
    glial cells

Difficulty: 2
QuestionID: 02-1-25
Page-Reference: 44
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: axons

26. **Holly is interested in decreasing her risk for multiple sclerosis. Which of the following would most likely help her to achieve her goal?**

    Stay indoors to avoid pollution.
    Take vitamin D supplements.
    Avoid fried foods.
    Decrease her physical activity.

Difficulty: 2
QuestionID: 02-1-26
Page-Reference: 44
Topic: Neurons and Nerves—Building the Network
Skill: A
Objective: 2.1

Answer: Take vitamin D supplements.

27. **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.**

    actively
    passively
    negatively
    positively

Difficulty: 2
QuestionID: 02-1-27
Page-Reference: 44
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.1

Answer: negatively

28. **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 _____.**
    action potential
    quiet potential
    synaptic membrane potential
    resting membrane potential

Difficulty: 2
QuestionID: 02-1-28
Page-Reference: 45
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: resting membrane potential

29. **When a cell is "at rest," it is in a state called the _____.**

    stopping point
    obcipitation junction
    resting membrane potential
    action potential

Difficulty: 1
QuestionID: 02-1-29
Page-Reference: 45
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.1

Answer: resting membrane potential

30. **What do we call the state of a neuron when it is not firing a neural impulse?**

    action potential
    resting membrane potential
    myelination signal
    transmission impulse

Difficulty: 1
QuestionID: 02-1-30
Page-Reference: 45
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: resting membrane potential

31. **When the electric potential in a cell is in action versus a resting state, this electrical charge reversal is known as the _____.**
    resting membrane potential
    excitation reaction
    action potential
    permeable reaction

Difficulty: 1
QuestionID: 02-1-31
Page-Reference: 45
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.1

Answer: action potential

32. **During the action potential, the electrical charge inside the neuron is _____ the electrical charge outside the neuron.**
    positive compared to
    larger than
    negative compared to
    smaller than

Difficulty: 2
QuestionID: 02-1-32
Page-Reference: 45
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.1

Answer: positive compared to

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

    all-or-none
    rapid fire
    accidental patterned
    quick successioned

Difficulty: 2
QuestionID: 02-1-33
Page-Reference: 46
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.1

Answer: all-or-none

34. **"All or none" is the principle stating that _____.**

    a neuron either fires at full strength or does not fire at all.
    a neuron fires either in a completely agonist fashion or in a completely antagonist fashion.
    all of the dendrites must be receiving messages telling the neuron to fire or it will not fire at all.
    all somas must be receiving messages telling the neuron to fire or it will not fire at all.

Difficulty: 2
QuestionID: 02-1-34
Page-Reference: 46
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.1

Answer: a neuron either fires at full strength or does not fire at all.

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

    dendrites, axon, soma, synaptic knob
    terminal buttons, axon, soma, dendrites
    axon, soma, dendrites, synaptic knob
    dendrites, soma, axon, synaptic knob

Difficulty: 3
QuestionID: 02-1-35
Page-Reference: 43-47
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.1-2.2

Answer: dendrites, soma, axon, synaptic knob

36. **The branches at the end of the axon are called _____.**

    axon terminals
    synaptic vesicles
    synapses
    receptor sites

Difficulty: 1
QuestionID: 02-1-36
Page-Reference: 47
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: axon terminals

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

    axon terminals
    synaptic vesicles
    synapses
    receptor sites

Difficulty: 2
QuestionID: 02-1-37
Page-Reference: 47
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: axon terminals

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

synaptic vesicles
axons
dendrites
synaptic knobs

Difficulty: 2
QuestionID: 02-1-38
Page-Reference: 47
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: synaptic knobs

39. **The saclike structures found inside the synaptic knob containing chemicals are called _____.**

axon terminals
synapses
synaptic vesicles
receptor sites

Difficulty: 1
QuestionID: 02-1-39
Page-Reference: 47
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: synaptic vesicles

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

synaptic vesicles
synaptic nodes
terminal buttons
synaptic gaps

Difficulty: 2
QuestionID: 02-1-40
Page-Reference: 47
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: synaptic vesicles

41. **A chemical found in the synaptic vesicles that, when released, has an effect on the next cell is called a _____**
    glial cell
    neurotransmitter
    precursor cell
    synapse

Difficulty: 1
QuestionID: 02-1-41
Page-Reference: 47
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: neurotransmitter

42. **The term *neurotransmitter* refers to _____.**

    a chemical found in the synaptic vesicles that is released into the synapse
    any one of a number of chemical compounds that increase the activity of the endocrine system
    the chemical substance found in the cell membrane
    the DNA contained in the nucleus of every neuron

Difficulty: 2
QuestionID: 02-1-42
Page-Reference: 47
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

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

43. **The fluid-filled space between the synaptic knob of one cell and the dendrites of the next cell is called the _____.**
    receptor site
    synapse
    synaptic knob
    axon terminal

Difficulty: 1
QuestionID: 02-1-43
Page-Reference: 48
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: synapse

44. **_____ are holes in the surface of the dendrites or certain cells of the muscles and glands that are shaped to fit only certain neurotransmitters.**
    Neurotransmitters
    Axons
    Synaptic vesicles
    Receptor sites

Difficulty: 1
QuestionID: 02-1-44
Page-Reference: 48
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: Receptor sites

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

    synapses
    receptor sites
    neural chiasms
    response terminals

Difficulty: 2
QuestionID: 02-1-45
Page-Reference: 48
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.2

Answer: receptor sites

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

    myelin sheath
    axon
    synapse
    synaptic vesicle

Difficulty: 2
QuestionID: 02-1-46
Page-Reference: 48
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: synapse

47. **The process that is associated with neurotransmitter molecules floating across the synapse to bind with receptor sites is _____.**
    diffusion
    infusion
    inhibition
    reuptake

Difficulty: 2
QuestionID: 02-1-47
Page-Reference: 48
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: diffusion

48. _____ **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.**

Excitatory; inhibitory
Inhibitory; excitatory
Augmentation; depletion
Depletion; augmentation

Difficulty: 2
QuestionID: 02-1-48
Page-Reference: 48
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.2

Answer: Excitatory; inhibitory

49. **Curare, a poison, works by _____.**

blocking receptor sites and acting as an antagonist for acetylcholine
stimulating the release of excessive amounts of acetylcholine
stimulating the release of neurotransmitters
inhibiting the production of inhibitory neurotransmitters

Difficulty: 3
QuestionID: 02-1-49
Page-Reference: 48
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.2

Answer: blocking receptor sites and acting as an antagonist for acetylcholine

50. **After being bitten by a black widow spider, Jean starts to convulse. This is a result of _____.**

a lack of GABA being released into her bloodstream
a resurgence of neurotransmitters overstimulating her brainstem
a surge of chemicals blocking the transmission of fluids to the spinal cord
a flood of acetylcholine releasing into the body's muscle system

Difficulty: 3
QuestionID: 02-1-50
Page-Reference: 48
Topic: Neurons and Nerves—Building the Network
Skill: A
Objective: 2.2

Answer: a flood of acetylcholine releasing into the body's muscle system

51. _____ **plays a critical role as a neurotransmitter that stimulates muscles to contract.**

    Acetylcholine
    GABA
    Dopamine
    Endorphin

Difficulty: 1
QuestionID: 02-1-51
Page-Reference: 48
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: Acetylcholine

52. **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?**
    GABA
    dopamine
    serotonin
    acetylcholine

Difficulty: 2
QuestionID: 02-1-52
Page-Reference: 49
Topic: Neurons and Nerves—Building the Network
Skill: A
Objective: 2.2

Answer: acetylcholine

53. **The poison of the black widow spider works by stimulating the release of excessive amounts of _____.**
    acetylcholine
    dopamine
    endorphins
    serotonin

Difficulty: 3
QuestionID: 02-1-53
Page-Reference: 48-49
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: acetylcholine

54. **Endorphins are _____.**

found where neurons meet skeletal muscles
less powerful than enkaphalins
pain-controlling chemicals
radically different in function from neurotransmitters

Difficulty: 2
QuestionID: 02-1-54
Page-Reference: 49
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: pain-controlling chemicals

55. **Pain-controlling chemicals in the body are called _____.**

neural regulators
histamines
androgens
endorphins

Difficulty: 1
QuestionID: 02-1-55
Page-Reference: 49
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: endorphins

56. **Because they have similar chemical structures, morphine and other opiates are able to lock into receptor sites for _____.**

GABA
serotonin
dopamine
endorphins

Difficulty: 3
QuestionID: 02-1-56
Page-Reference: 49
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: endorphins

57. **Reuptake is _____.**

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

Difficulty: 1
QuestionID: 02-1-57
Page-Reference: 50
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: a process by which neurotransmitters are sucked back into the synaptic vesicles

58. **Isabella is putting mustard on her hot dog. She realizes that she has put on too much and sucks some of it back into the squeeze bottle. This process is similar to**
the action potential.
receptor site bindings.
binding specificity.
reuptake.

Difficulty: 3
QuestionID: 02-1-58
Page-Reference: 50
Topic: Neurons and Nerves—Building the Network
Skill: A
Objective: 2.2

Answer: reuptake.

59. **How is acetylcholine removed from the synapse?**

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

Difficulty: 3
QuestionID: 02-1-59
Page-Reference: 50
Topic: Neurons and Nerves—Building the Network
Skill: C
Objective: 2.2

Answer: It is broken down by an enzyme.

60. **GABA functions as _____.**

the major neurotransmitter involved in voluntary movements
an inhibitory neurotransmitter in the brain
the neurotransmitter responsible for slowing intestinal activity during stress
the major excitatory neurotransmitter in the brain

Difficulty: 2
QuestionID: 02-1-60
Page-Reference: 50
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: an inhibitory neurotransmitter in the brain

61. **Which of the following neurotransmitters functions as a common inhibitory neurotransmitter in the brain?**
    serotonin
    GABA
    acetylcholine
    norepinephrine

Difficulty: 1
QuestionID: 02-1-61
Page-Reference: 50
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: GABA

62. **Which neurotransmitter is associated with mood and depression?**

    GABA
    serotonin
    dopamine
    acetylcholine

Difficulty: 1
QuestionID: 02-1-62
Page-Reference: 50-51
Topic: Neurons and Nerves—Building the Network
Skill: F
Objective: 2.2

Answer: serotonin

63. **Andy has decided to seek medical help for mood disturbances and appetite problems. Which neurotransmitter is most likely involved in the problems that Andy is experiencing?**
    GABA
    dopamine
    serotonin
    acetylcholine

Difficulty: 2
QuestionID: 02-1-63
Page-Reference: 50-51
Topic: Neurons and Nerves—Building the Network
Skill: A
Objective: 2.2

Answer: serotonin

64. **The brain and spinal cord are two components of the _____.**

    central nervous system
    somatic nervous system
    peripheral nervous system
    autonomic nervous system

Difficulty: 1
QuestionID: 02-1-64
Page-Reference: 51
Topic: The Central Nervous System – The "Central Processing Unit"
Skill: F
Objective: 2.3

Answer: central nervous system

65. **The central nervous system consists of _____.**

    the parasympathetic and sympathetic divisions
    the brain and spinal cord
    muscles and glands
    sense organs and sensory neurons

Difficulty: 1
QuestionID: 02-1-65
Page-Reference: 51
Topic: The Central Nervous System – The "Central Processing Unit"
Skill: F
Objective: 2.3

Answer: the brain and spinal cord

66. **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?**
    spinal cord
    brain
    reflexes
    interneurons

Difficulty: 1
QuestionID: 02-1-66
Page-Reference: 51
Topic: The Central Nervous System – The "Central Processing Unit"
Skill: F
Objective: 2.3

Answer: brain

67. **The long bundle of neurons that carries messages between the body and the brain and is responsible for very fast, life-saving reflexes is called the _____.**
    spinal cord
    brain
    reflexes
    interneurons

Difficulty: 1
QuestionID: 02-1-67
Page-Reference: 51
Topic: The Central Nervous System – The "Central Processing Unit"
Skill: F
Objective: 2.3

Answer: spinal cord

68. **Which of the following is a long bundle of neurons that functions as a carrier of messages from the body to the brain and from the brain to the body and is responsible for certain reflexes?**
    spinal cord
    cerebellum
    somatic nervous system
    amygdala

Difficulty: 2
QuestionID: 02-1-68
Page-Reference: 51-52
Topic: The Central Nervous System – The "Central Processing Unit"
Skill: F
Objective: 2.3

Answer: spinal cord

69. **Which of the following are the three basic types of neurons?**

    reflexes, sensory neurons, motor neurons
    sensory neurons, motor neurons, stem cells
    motor neurons, stem cells, reflexes
    interneurons, sensory neurons, motor neurons

Difficulty: 1
QuestionID: 02-1-69
Page-Reference: 52
Topic: The Central Nervous System – The "Central Processing Unit"
Skill: F
Objective: 2.3

Answer: interneurons, sensory neurons, motor neurons

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

    motor neurons
    interneurons
    sensory neurons
    reflexes

Difficulty: 1
QuestionID: 02-1-70
Page-Reference: 52
Topic: The Central Nervous System – The "Central Processing Unit"
Skill: F
Objective: 2.3

Answer: sensory neurons

71. **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?**
    motor neurons
    interneurons
    sensory neurons
    reflexes

Difficulty: 3
QuestionID: 02-1-71
Page-Reference: 52
Topic: The Central Nervous System – The "Central Processing Unit"
Skill: A
Objective: 2.3

Answer: motor neurons

72. **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 _____.**
    motor neurons
    interneurons
    sensory neurons
    reflexes

Difficulty: 1
QuestionID: 02-1-72
Page-Reference: 52
Topic: The Central Nervous System – The "Central Processing Unit"
Skill: F
Objective: 2.3

Answer: interneurons

73. **Which of the following are responsible for acting as a facilitator of communication between neurons?**
    motor neurons
    interneurons
    sensory neurons
    reflexes

Difficulty: 3
QuestionID: 02-1-73
Page-Reference: 52
Topic: The Central Nervous System – The "Central Processing Unit"
Skill: C
Objective: 2.3

Answer: interneurons

74. **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 the main area of the cord?**
    motor neuron
    interneuron
    sensory neuron
    reflex

Difficulty: 2
QuestionID: 02-1-74
Page-Reference: 52
Topic: The Central Nervous System – The "Central Processing Unit"
Skill: A
Objective: 2.3

Answer: sensory neuron

75. **Cameron touches a hot iron and immediately pulls his hand away. His quick response occurs because _____.**
    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
    the brain has registered that pain is occurring and responds quickly
    his glands have secreted chemical messengers called hormones
    neurons in the spinal cord touch end to end to increase response speed

Difficulty: 3
QuestionID: 02-1-75
Page-Reference: 52-53
Topic: The Central Nervous System – The "Central Processing Unit"
Skill: A
Objective: 2.3

Answer: 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

76. **Why do many reflexes, such as pulling your hand away from a hot iron, happen so quickly?**

    They involve the neurotransmitter GABA rather than dopamine.
    The message involved does not have to go all the way to the brain.
    The speed of processing is faster in the frontal lobes than in the occipital lobes.
    The path that reflexes follow to the brain is direct and does not involve any neurotransmitters.

Difficulty: 3
QuestionID: 02-1-76
Page-Reference: 53
Topic: The Central Nervous System – The "Central Processing Unit"
Skill: A
Objective: 2.3

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

77. **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, 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.**

adaptology
stagnation
neuroplasticity
reflex arc

Difficulty: 2
QuestionID: 02-1-77
Page-Reference: 53
Topic: The Central Nervous System – The “Central Processing Unit”
Skill: A
Objective: 2.3

Answer: neuroplasticity

78. **Karen's 80-year-old grandmother has been learning to play piano and is improving steadily. Based on Canadian research on neuroplasticity, Karen might conclude that her grandmother's _____.**

production of serotonin has increased
glial cells are helping her neurons to form new connections
brain is growing new neurons
stem cells are producing new neurons

Difficulty: 3
QuestionID: 02-1-78
Page-Reference: 53
Topic: The Central Nervous System – The “Central Processing Unit”
Skill: A
Objective: 2.3

Answer: glial cells are helping her neurons to form new connections

79. **The peripheral nervous system consists of _____.**

all nerve cells that are not in the brain and spinal cord
all nerves in the brain and spinal cord
the spinal cord and the autonomic system
the brain and the autonomic system

Difficulty: 1
QuestionID: 02-1-79
Page-Reference: 54
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: F
Objective: 2.4

Answer: all nerve cells that are not in the brain and spinal cord

80. **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 that allows the brain and spinal cord to control the muscles and glands of the body is called the _____.**
    peripheral nervous system
    central nervous system
    endocrine system
    secondary nervous system

Difficulty: 1
QuestionID: 02-1-80
Page-Reference: 54
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: F
Objective: 2.4

Answer: peripheral nervous system

81. **The peripheral nervous system consists of the _____ and the _____ nervous systems.**

    autonomic; somatic
    autonomic; sympathetic
    parasympathetic; somatic
    parasympathetic; sympathetic

Difficulty: 2
QuestionID: 02-1-81
Page-Reference: 54
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: C
Objective: 2.4

Answer: autonomic; somatic

82. **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 _____.**
    autonomic nervous system
    parasympathetic nervous system
    somatic nervous system
    central nervous system

Difficulty: 1
QuestionID: 02-1-82
Page-Reference: 54
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: F
Objective: 2.4

Answer: somatic nervous system

83. **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.**
    autonomic nerves
    sensory pathway neurons
    motor pathway neurons
    autonomic neurons

Difficulty: 1
QuestionID: 02-1-83
Page-Reference: 54
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: F
Objective: 2.4

Answer: sensory pathway neurons

84. **Vladimir is typing on the computer keyboard. The motion of his fingers on the keys is probably being controlled by _____.**
    the autonomic nervous system
    sensory pathway neurons
    motor pathway neurons
    autonomic neurons

Difficulty: 3
QuestionID: 02-1-84
Page-Reference: 54
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: A
Objective: 2.4

Answer: motor pathway neurons

85. **Every deliberate action you make, such as pedalling a bike, walking, scratching, or smelling a flower, involves neurons in the _____ nervous system.**
    sympathetic
    somatic
    parasympathetic
    autonomic

Difficulty: 2
QuestionID: 02-1-85
Page-Reference: 54
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: A
Objective: 2.4

Answer: somatic

86. **Voluntary muscles are controlled by the _____ nervous system.**

    somatic
    autonomic
    sympathetic
    parasympathetic

Difficulty: 1
QuestionID: 02-1-86
Page-Reference: 54
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: F
Objective: 2.4

Answer: somatic

87. **As she walks out of the living room, Gloria turns out the light. In this example, Gloria's is _____ active.**
    sympathetic nervous system
    parasympathetic nervous system
    autonomic nervous system
    somatic nervous system

Difficulty: 2
QuestionID: 02-1-87
Page-Reference: 54
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: A
Objective: 2.4

Answer: somatic nervous system

88. **Involuntary muscles are controlled by the _____ nervous system.**

    somatic
    autonomic
    sympathetic
    parasympathetic

Difficulty: 1
QuestionID: 02-1-88
Page-Reference: 55
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: F
Objective: 2.4

Answer: autonomic

89. **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.**
    somatic
    autonomic
    sympathetic
    parasympathetic

Difficulty: 1
QuestionID: 02-1-89
Page-Reference: 55
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: F
Objective: 2.4

Answer: autonomic

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

skeletal nervous system
spinal reflexes
autonomic nervous system
somatic nervous system

Difficulty: 2
QuestionID: 02-1-90
Page-Reference: 55
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: A
Objective: 2.4

Answer: autonomic nervous system

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

central; peripheral
sympathetic; parasympathetic
receptors; effectors
limbic; endocrine

Difficulty: 1
QuestionID: 02-1-91
Page-Reference: 55
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: F
Objective: 2.4

Answer: sympathetic; parasympathetic

92. **Which component of the nervous system mobilizes the body in times of stress?**

central
somatic
sympathetic
parasympathetic

Difficulty: 2
QuestionID: 02-1-92
Page-Reference: 55-56
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: C
Objective: 2.4

Answer: sympathetic

93. **The part of the autonomic nervous system that is responsible for reacting to stressful events and bodily arousal is called the _____ nervous system.**
    central
    somatic
    sympathetic
    parasympathetic

Difficulty: 1
QuestionID: 02-1-93
Page-Reference: 55
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: F
Objective: 2.4

Answer: sympathetic

94. **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 _____.**
    somatic nervous system
    skeletal nervous system
    parasympathetic nervous system
    sympathetic nervous system

Difficulty: 2
QuestionID: 02-1-94
Page-Reference: 55
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: A
Objective: 2.4

Answer: sympathetic nervous system

95. **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 _____.**
    spinal cord
    somatic nervous system
    sympathetic nervous system
    parasympathetic nervous system

Difficulty: 1
QuestionID: 02-1-95
Page-Reference: 56
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: F
Objective: 2.4

Answer: parasympathetic nervous system

96. **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 that 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?**

spinal cord
somatic nervous system
sympathetic nervous system
parasympathetic nervous system

Difficulty: 2
QuestionID: 02-1-96
Page-Reference: 56
Topic: The Peripheral Nervous System—Nerves on the Edge
Skill: A
Objective: 2.4

Answer: parasympathetic nervous system

97. **Endocrine glands _____.**

secrete hormones directly into the bloodstream
are chemicals released into the bloodstream
are an extensive network of specialized cells
are a thin layer of cells coating the axons

Difficulty: 1
QuestionID: 02-1-97
Page-Reference: 57
Topic: Distant Connections—The Endocrine Glands
Skill: F
Objective: 2.5

Answer: secrete hormones directly into the bloodstream

98. **Hormones are chemicals that are secreted and go directly into _____.**

the bloodstream
specific organs
nerve endings
the brain

Difficulty: 1
QuestionID: 02-1-98
Page-Reference: 57
Topic: Distant Connections—The Endocrine Glands
Skill: C
Objective: 2.5

Answer: the bloodstream

99. **Hormones are _____.**

the female gonads
chemicals released into the bloodstream by the endocrine glands
chemicals found in the synaptic vesicles, which when released have an effect on the next cell
the male gonads

Difficulty: 1
QuestionID: 02-1-99
Page-Reference: 57
Topic: Distant Connections—The Endocrine Glands
Skill: F
Objective: 2.5

Answer: chemicals released into the bloodstream by the endocrine glands

100. **Which endocrine gland controls all of the other endocrine glands?**

the thyroid gland
the adrenal gland
the thymus gland
the pituitary gland

Difficulty: 1
QuestionID: 02-1-100
Page-Reference: 58
Topic: Distant Connections—The Endocrine Glands
Skill: F
Objective: 2.5

Answer: the pituitary gland

101. **The hormone released by the pineal gland that is influential in sleep-wake cycles is _____.**

melatonin
DHEA
parathormone
thyroxin

Difficulty: 1
QuestionID: 02-1-101
Page-Reference: 58
Topic: Distant Connections—The Endocrine Glands
Skill: F
Objective: 2.5

Answer: melatonin

102. **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?**

the adrenal gland
the thymus gland
the thyroid gland
the pancreas

Difficulty: 3
QuestionID: 02-1-102
Page-Reference: 58
Topic: Distant Connections—The Endocrine Glands
Skill: A
Objective: 2.5

Answer: the thyroid gland

103. **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?**
    the adrenal gland
    the thymus gland
    the thyroid gland
    the pancreas

Difficulty: 3
QuestionID: 02-1-103
Page-Reference: 58
Topic: Distant Connections—The Endocrine Glands
Skill: A
Objective: 2.5

Answer: the pancreas

104. **The sex glands, which secrete hormones that regulate sexual development and behaviour as well as reproduction, are called _____.**
    the pancreas
    the gonads
    cortisol
    the hypothalamus

Difficulty: 1
QuestionID: 02-1-104
Page-Reference: 58
Topic: Distant Connections—The Endocrine Glands
Skill: F
Objective: 2.5

Answer: the gonads

105. **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.**
    adrenal glands
    thymus gland
    thyroid gland
    gonads

Difficulty: 1
QuestionID: 02-1-105
Page-Reference: 59
Topic: Distant Connections—The Endocrine Glands
Skill: F
Objective: 2.5

Answer: adrenal glands

106. **Joe is very anxious over an upcoming exam. Consequently, his adrenal glands will probably produce _____.**
more testosterone
less estrogen
more cortisol
less cortisol

Difficulty: 2
QuestionID: 02-1-106
Page-Reference: 59
Topic: Distant Connections—The Endocrine Glands
Skill: A
Objective: 2.5

Answer: more cortisol

107. **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 _____.**
deep lesioning
ESB
EEG
CT scan

Difficulty: 1
QuestionID: 02-1-107
Page-Reference: 60
Topic: Looking Inside the Living Brain
Skill: F
Objective: 2.6

Answer: deep lesioning

108. **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 in 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 _____.**
deep lesioning
ESB
EEG
CT scan

Difficulty: 2
QuestionID: 02-1-108
Page-Reference: 60
Topic: Looking Inside the Living Brain
Skill: C
Objective: 2.6

Answer: deep lesioning

109. **Insertion into the brain of a thin insulated wire through which an electrical current is sent that stimulates the brain cells at the tip of the wire is called _____.**
deep lesioning
ESB
EEG
CT scan

Difficulty: 1
QuestionID: 02-1-109
Page-Reference: 60
Topic: Looking Inside the Living Brain
Skill: F
Objective: 2.6

Answer: ESB

110. **If Mindy's doctor has taken a series of images of her brain using X-rays, she likely had a(n) _____.**
EEG
MRI
CT
PET

Difficulty: 3
QuestionID: 02-1-110
Page-Reference: 61
Topic: Looking Inside the Living Brain
Skill: A
Objective: 2.6

Answer: CT

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

electroencephalography (EEG)
magnetic resonance imaging (MRI)
positron emission tomography (PET)
computed tomography (CT)

Difficulty: 1
QuestionID: 02-1-111
Page-Reference: 61
Topic: Looking Inside the Living Brain
Skill: F
Objective: 2.6

Answer: computed tomography (CT)

112. **Ali is in the hospital about to undergo a brain-imaging process that involves taking many X-rays from different angles aided by a computer. What type of imaging technique is being used?**
electroencephalography (EEG)
magnetic resonance imaging (MRI)
positron emission tomography (PET)
computed tomography (CT)

Difficulty: 2
QuestionID: 02-1-112
Page-Reference: 61
Topic: Looking Inside the Living Brain
Skill: A
Objective: 2.6

Answer: computed tomography (CT)

113. **A brain-imaging method using radio waves and magnetic fields of the body to produce detailed images of the brain is called _____.**
electroencephalography (EEG)
magnetic resonance imaging (MRI)
positron emission tomography (PET)
computed tomography (CT)

Difficulty: 1
QuestionID: 02-1-113
Page-Reference: 61
Topic: Looking Inside the Living Brain
Skill: F
Objective: 2.6

Answer: magnetic resonance imaging (MRI)

114. **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?**
electroencephalography (EEG)
magnetic resonance imaging (MRI)
computed tomography (CT)
positron emission tomography (PET)

Difficulty: 2
QuestionID: 02-1-114
Page-Reference: 61
Topic: Looking Inside the Living Brain
Skill: A
Objective: 2.6

Answer: magnetic resonance imaging (MRI)

115. **A brain-imaging method called _____ takes advantage of the magnetic properties of different atoms to take sharp, three-dimensional images of the brain.**
    electroencephalography (EEG)
    magnetic resonance imaging (MRI)
    positron emission magnetography (PEM)
    computed tomography (CT)

Difficulty: 1
QuestionID: 02-1-115
Page-Reference: 61
Topic: Looking Inside the Living Brain
Skill: C
Objective: 2.6

Answer: magnetic resonance imaging (MRI)

116. **Small metal discs are pasted to Miranda's scalp and connected by wire to a machine that translates the electrical energy from her brain into wavy lines on a moving piece of paper. From this description, it is evident that Miranda's brain is being studied through the use of _____.**
    a CT scan
    functional magnetic resonance imaging (fMRI)
    a microelectrode
    an electroencephalogram (EEG)

Difficulty: 2
QuestionID: 02-1-116
Page-Reference: 62
Topic: Looking Inside the Living Brain
Skill: A
Objective: 2.6

Answer: an electroencephalogram (EEG)

117. **Which of the following is a machine designed to record the brain wave patterns produced by electrical activity of the surface of the brain?**
    deep lesioning
    electrical stimulation of the brain (ESB)
    an electroencephalogram (EEG)
    CT scan

Difficulty: 1
QuestionID: 02-1-117
Page-Reference: 62
Topic: Looking Inside the Living Brain
Skill: F
Objective: 2.6

Answer: an electroencephalogram (EEG)

118. **Which equipment is used to monitor brain waves?**

    CT scans
    functional magnetic resonance imaging (fMRI)
    microelectrode
    electroencephalograph (EEG)

Difficulty: 1
QuestionID: 02-1-118
Page-Reference: 62
Topic: Looking Inside the Living Brain
Skill: F
Objective: 2.6

Answer: electroencephalograph (EEG)

119. **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?**
electroencephalography (EEG)
computed tomography (CT)
positron emission tomography (PET)
functional magnetic resonance imaging (fMRI)

Difficulty: 1
QuestionID: 02-1-119
Page-Reference: 63
Topic: Looking Inside the Living Brain
Skill: F
Objective: 2.6

Answer: positron emission tomography (PET)

120. **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 glucose-like substance and then is told to lie down with her head in a scanner. The technique being used is _____.**
positron emission tomography (PET)
functional magnetic resonance imaging (fMRI)
microelectrode recording.
an electroencephalogram (EEG)

Difficulty: 2
QuestionID: 02-1-120
Page-Reference: 63
Topic: Looking Inside the Living Brain
Skill: A
Objective: 2.6

Answer: positron emission tomography (PET)

121. **Marika needs to have a neuroimaging test that will track the activity of her brain, along with changes in her brain oxygen levels. Which of the following offers an alternative to PET scans, with the advantage of using radioactive tracers that are easier to monitor?**
electroencephalography (EEG)
computed tomography (CT)
functional positron emission tomography (fPET)
single photon emission computed tomography (SPECT)

Difficulty: 2
QuestionID: 02-1-121
Page-Reference: 63
Topic: Looking Inside the Living Brain
Skill: A
Objective: 2.6

Answer: single photon emission computed tomography (SPECT)

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

SPECT is a non-invasive neuroimaging technique, while PET is invasive.
SPECT offers the benefit of using radioactive tracers that are easier to monitor than PET.
SPECT allows monitoring of actual brain activity, while PET does not.
SPECT offers monitoring of brain oxygen changes, while PET does not.

Difficulty: 2
QuestionID: 02-1-122
Page-Reference: 63
Topic: Looking Inside the Living Brain
Skill: C
Objective: 2.6

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

123. **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?**

electroencephalography (EEG)
computed tomography (CT)
positron emission tomography (PET)
functional magnetic resonance imaging (fMRI)

Difficulty: 2
QuestionID: 02-1-123
Page-Reference: 63
Topic: Looking Inside the Living Brain
Skill: A
Objective: 2.6

Answer: functional magnetic resonance imaging (fMRI)

124. **In a hospital laboratory, doctors are surprised when they see a photo of 35-year-old Troy's brain. The damage to his brain looks more like that of an 85-year-old Alzheimer's patient than a middle-aged adult. It is likely that**

Troy has been exercising to the extreme, resulting in brain damage.
Troy has suffered multiple concussions in his lifetime.
the doctors have used a PET scan rather than an fMRI.
the doctors obtained an EEG recording when they should have used a CT.

Difficulty: 1
QuestionID: 02-1-124
Page-Reference: 64
Topic: Looking Inside the Living Brain
Skill: A
Objective: 2.6

Answer: Troy has suffered multiple concussions in his lifetime.

125. **The _____ is a structure in the brainstem responsible for life-sustaining functions, such as breathing and heart rate.**
    reticular activating system
    pons
    medulla
    cerebellum

Difficulty: 1
QuestionID: 02-1-125
Page-Reference: 65
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.7

Answer: medulla

126. **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?**
    the pons
    the medulla
    the cerebellum
    the reticular formation

Difficulty: 3
QuestionID: 02-1-126
Page-Reference: 65
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.7

Answer: the medulla

127. **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 _____.**
    reticular activating system
    pons
    medulla
    cerebellum

Difficulty: 2
QuestionID: 02-1-127
Page-Reference: 65
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.7

Answer: medulla

128. **The _____ is a structure in the brainstem that connects the top of the brain to the bottom and plays a role in sleep, dreaming, left–right body coordination, and arousal.**
    reticular activating system
    pons
    medulla
    cerebellum

Difficulty: 1
QuestionID: 02-1-128
Page-Reference: 65
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.7

Answer: pons

129. **A university student is having difficulty staying awake during the day and sleeping through the night. Her difficulties are MOST likely due to problems in the _____.**
    hippocampus
    pons
    medulla
    cerebellum

Difficulty: 3
QuestionID: 02-1-129
Page-Reference: 65
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.7

Answer: pons

130. **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 have vivid, active dreams. Which part of her brain most likely was affected during the car accident, affecting her dreaming problem?**
    pons
    cerebellum
    cerebral cortex
    pituitary gland

Difficulty: 2
QuestionID: 02-1-130
Page-Reference: 65
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.7

Answer: pons

131. **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?**
    medulla
    pons
    cerebellum
    thalamus

Difficulty: 3
QuestionID: 02-1-131
Page-Reference: 65-66
Topic: From the Bottom Up—The Structures of the Brain
Skill: C
Objective: 2.7

Answer: thalamus

132. **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?**
reticular formation
pons
medulla
cerebellum

Difficulty: 1
QuestionID: 02-1-132
Page-Reference: 65-66
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.7

Answer: reticular formation

133. **What is the main function of the reticular formation?**

to control thinking
to regulate emotions
to control levels of alertness
to coordinate involuntary rapid fine motor movements.

Difficulty: 2
QuestionID: 02-1-133
Page-Reference: 65-66
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.7

Answer: to control levels of alertness

134. **Alice is typing her term paper in the computer lab. Although a class is going on just a few metres 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?**
reticular formation
pons
medulla
cerebellum

Difficulty: 2
QuestionID: 02-1-134
Page-Reference: 65-66
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.7

Answer: reticular formation

135. **Katie has slept 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 are still awake. In an effort to save electricity, her mother has started turning the fan off after she thinks Katie is asleep. However, each time the fan is turned off, Katie wakes up and asks for it to be turned back on. Katie is selectively attending to certain kinds of information in her surroundings that have been linked to the _____ part of the brain.**

reticular formation
pons
cerebellum
medulla

Difficulty: 2
QuestionID: 02-1-135
Page-Reference: 65-66
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.7

Answer: reticular formation

136. **The cerebellum _____.**

controls blood pressure
is involved in emotional behaviour
coordinates involuntary rapid fine motor movement
relays messages from the sensory receptors

Difficulty: 2
QuestionID: 02-1-136
Page-Reference: 66
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.7

Answer: coordinates involuntary rapid fine motor movement

137. **Which of the following coordinates involuntary rapid fine motor movement?**

medulla
pons
reticular formation
cerebellum

Difficulty: 1
QuestionID: 02-1-137
Page-Reference: 66
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.7

Answer: cerebellum

138. **Damage to the cerebellum is likely to disrupt which of the following?**

playing basketball
sleeping
homeostasis
thinking

Difficulty: 3
QuestionID: 02-1-138
Page-Reference: 66
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.7

Answer: playing basketball

139. **If your _____ was damaged, you might walk oddly and have trouble standing normally.**

pons
medulla
cerebellum
amygdala

Difficulty: 2
QuestionID: 02-1-139
Page-Reference: 66
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.7

Answer: cerebellum

140. **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 and walk and will be uncoordinated in her movements. This disease affects the _____ part of the brain.**

hippocampus
amygdala
cerebellum
cerebral cortex

Difficulty: 2
QuestionID: 02-1-140
Page-Reference: 66
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.7

Answer: cerebellum

141. **Tracey has been unable to participate in her gymnastics class and is very uncoordinated since she was involved in an accident during which she suffered a head injury. As a result of the accident, she is likely to have suffered damage to her _____.**
    cerebellum
    medulla
    cerebral cortex
    hypothalamus

Difficulty: 2
QuestionID: 02-1-141
Page-Reference: 66
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.7

Answer: cerebellum

142. **Which of the following is a group of several brain structures located under the cortex and involved in learning, emotion, memory, and motivation?**
    limbic system
    cerebellum
    cerebral cortex
    cerebrum

Difficulty: 1
QuestionID: 02-1-142
Page-Reference: 66
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.8

Answer: limbic system

143. **The structures of the limbic system play an important role in _____ and _____.**

    heart rate; breathing
    breathing; decision making
    memory; emotion
    spatial tasks; sequential tasks

Difficulty: 1
QuestionID: 02-1-143
Page-Reference: 66
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.8

Answer: memory; emotion

144. **What part of the brain acts as a relay station for incoming sensory information?**

    hypothalamus
    thalamus
    cerebellum
    pituitary gland

Difficulty: 1
QuestionID: 02-1-144
Page-Reference: 67
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.8

Answer: thalamus

145. **The thalamus is often compared to a(n) _____.**

triage nurse
fast-food menu
stop sign
bus stop

Difficulty: 2
QuestionID: 02-1-145
Page-Reference: 67
Topic: From the Bottom Up—The Structures of the Brain
Skill: C
Objective: 2.8

Answer: triage nurse

146. **Jerry loves the smell of the grass after it rains. This is the result of his _____, which has (have) received signals from neurons in his sinus cavity.**

thalamus
olfactory bulbs
opticfactory bulbs
hippocampus

Difficulty: 1
QuestionID: 02-1-146
Page-Reference: 67
Topic: From the Bottom Up—The Structures of the Brain
Skill: C
Objective: 2.8

Answer: olfactory bulbs

147. **Signals from the neurons of which sense are NOT sent to the cortex by the thalamus?**

hearing
smell
taste
vision

Difficulty: 2
QuestionID: 02-1-147
Page-Reference: 67
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.8

Answer: smell

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

hippocampus
thalamus
hypothalamus
amygdala

Difficulty: 2
QuestionID: 02-1-148
Page-Reference: 67
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.8

Answer: hypothalamus

149. **Eating, drinking, sexual behaviour, sleeping, and temperature control are most strongly influenced by the _____.**

hippocampus
thalamus
hypothalamus
amygdala

Difficulty: 2
QuestionID: 02-1-149
Page-Reference: 67
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.8

Answer: hypothalamus

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

reduced use of left arm
deregulation of hormones
development of aphasia
reduced ability to reason

Difficulty: 2
QuestionID: 02-1-150
Page-Reference: 67
Topic: From the Bottom Up—The Structures of the Brain
Skill: C
Objective: 2.8

Answer: deregulation of hormones

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

hippocampus
hypothalamus
fornix
amygdala

Difficulty: 1
QuestionID: 02-1-151
Page-Reference: 67
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.8

Answer: hippocampus

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

hippocampus
hypothalamus
fornix
amygdala

Difficulty: 2
QuestionID: 02-1-152
Page-Reference: 67
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.8

Answer: hippocampus

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

hippocampus
hypothalamus
fornix
amygdala

Difficulty: 3
QuestionID: 02-1-153
Page-Reference: 67
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.8

Answer: hippocampus

154. **The _____ is located within the temporal lobe on each side of the brain, and if electrically stimulated it may produce dream-like or memory-like experiences.**

thalamus
amygdala
hypothalamus
hippocampus

Difficulty: 2
QuestionID: 02-1-154
Page-Reference: 68
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.8

Answer: hippocampus

155. **Which of the following brain structures is located near the hippocampus and is responsible for fear responses and memory of fear?**
hippocampus
hypothalamus
fornix
amygdala

Difficulty: 1
QuestionID: 02-1-155
Page-Reference: 68
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.8

Answer: amygdala

156. **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.**
hypothalamus
hippocampus
amygdala
cerebellum

Difficulty: 2
QuestionID: 02-1-156
Page-Reference: 68
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.8

Answer: amygdala

157. **Rats that have a damaged _____ will show no fear when placed next to a cat.**

hippocampus
hypothalamus
fornix
amygdala

Difficulty: 3
QuestionID: 02-1-157
Page-Reference: 68
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.8

Answer: amygdala

158. **The _____ instantly assesses anger or threat.**

amygdala
medulla
fornix
parietal lobe

Difficulty: 2
QuestionID: 02-1-158
Page-Reference: 68
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.8

Answer: amygdala

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

hippocampus
thalamus
amygdala
medulla

Difficulty: 3
QuestionID: 02-1-159
Page-Reference: 68
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.8

Answer: amygdala

160. **Ally has difficulty with selective attention, recognizing words, and her short-term memory. She has also been exhibiting symptoms of depression. Which limbic structure are her physicians most likely to suspect is playing a role in her symptoms?**

thalamus
amygdala
hypothalamus
cingulate cortex

Difficulty: 2
QuestionID: 02-1-160
Page-Reference: 68
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.8

Answer: cingulate cortex

161. **The outermost part of the brain, which is made up of tightly packed neurons and is only a tenth of an inch thick, is called the _____.**
    amygdala
    medulla
    cerebellum
    cortex

Difficulty: 1
QuestionID: 02-1-161
Page-Reference: 69
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.8

Answer: cortex

162. **The cortex is divided into two sections referred to as _____.**

    cerebral hemispheres
    cerebellums
    corpus callosum
    neurotransmitters

Difficulty: 1
QuestionID: 02-1-162
Page-Reference: 69
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.9

Answer: cerebral hemispheres

163. **The thick band of neurons that connects the right and left cerebral hemispheres is called the _____.**
    cortex
    cerebrum
    corpus callosum
    cerebellum

Difficulty: 1
QuestionID: 02-1-163
Page-Reference: 69
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.9

Answer: corpus callosum

164. **Which of the following is the section of the brain located at the rear and bottom of each cerebral hemisphere and that contains the visual centres of the brain?**
    occipital lobe
    parietal lobe
    temporal lobe
    frontal lobe

Difficulty: 1
QuestionID: 02-1-164
Page-Reference: 70
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.9

Answer: occipital lobe

165. **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.**
occipital
parietal
temporal
frontal

Difficulty: 3
QuestionID: 02-1-165
Page-Reference: 70
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.9

Answer: occipital

166. **Which of the following regions contains the primary visual cortex?**

occipital lobe
parietal lobe
temporal lobe
frontal lobe

Difficulty: 2
QuestionID: 02-1-166
Page-Reference: 70
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.9

Answer: occipital lobe

167. **The part of the occipital lobe that is responsible for receiving visual information from the eyes is called the _____.**
primary visual cortex
somatosensory cortex
temporal lobe
frontal lobe

Difficulty: 1
QuestionID: 02-1-167
Page-Reference: 70
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.9

Answer: primary visual cortex

168. **John has decided to learn how to wrestle. On his first day at practice, a seasoned wrestler slams the back of John's head to the mat. John is shaken and reports to the trainer that he "saw stars" after he hit his head. As evidenced by "seeing stars," John's _____ was temporarily affected as a result of the slam.**
    corpus callosum
    occipital lobe
    parietal lobes
    somatosensory cortex

Difficulty: 3
QuestionID: 02-1-168
Page-Reference: 70
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.9

Answer: occipital lobe

169. **Sue was rollerblading when a cat jumped in front of her, causing her to fall. She landed on the back of her head, at which point she "saw stars." Which lobe would have been most affected by this fall, given what she saw?**
    frontal
    temporal
    parietal
    occipital

Difficulty: 2
QuestionID: 02-1-169
Page-Reference: 70
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.9

Answer: occipital

170. **The section of the brain responsible for interpreting the visual information in the primary visual cortex is called the _____.**
    visual association cortex
    somatosensory cortex
    temporal lobe
    frontal lobe

Difficulty: 1
QuestionID: 02-1-170
Page-Reference: 70
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.9

Answer: visual association cortex

171. **Damage to the _____ would result in an inability to identify and comprehend what is seen through the eyes.**
    visual association cortex
    primary visual cortex
    temporal lobe
    frontal lobe

Difficulty: 3
QuestionID: 02-1-171
Page-Reference: 70
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.9

Answer: visual association cortex

172. **Which of the following regions contains the somatosensory cortex?**

    occipital lobes
    parietal lobes
    temporal lobes
    frontal lobes

Difficulty: 2
QuestionID: 02-1-172
Page-Reference: 70
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.9

Answer: parietal lobes

173. **The _____ lobes are located at the top and back of each cerebral hemisphere, containing the centres for touch, body position, and temperature.**
    frontal
    temporal
    occipital
    parietal

Difficulty: 3
QuestionID: 02-1-173
Page-Reference: 70
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.9

Answer: parietal

174. **Al is trying to decide whether the shower is hot enough to step into, Hal is listening to his MP3 player, and Sal is looking at a beautiful painting in an art museum. Which individual is using his parietal lobe?**
    Al
    Hal
    Sal
    Hal and Sal are, but Al is not.

Difficulty: 3
QuestionID: 02-1-174
Page-Reference: 70
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.9

Answer: Al

175. **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?**
frontal lobes
temporal lobes
occipital lobes
parietal lobes

Difficulty: 3
QuestionID: 02-1-175
Page-Reference: 70
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.9

Answer: parietal lobes

176. **Which of the following regions contains the auditory cortex?**

temporal lobes
parietal lobes
frontal lobes
occipital lobes

Difficulty: 2
QuestionID: 02-1-176
Page-Reference: 70-71
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.9

Answer: temporal lobes

177. **The part of the brain located just behind the temples, containing neurons responsible for the sense of hearing and meaningful speech, is called the _____.**
temporal lobes
parietal lobes
frontal lobes
occipital lobes

Difficulty: 1
QuestionID: 02-1-177
Page-Reference: 70-71
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.9

Answer: temporal lobes

178. **Bobby B. was rollerblading when a cat jumped in front of him, causing him to fall. When he fell, he landed on the side of his head. Shortly afterward, 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?**

frontal
temporal
parietal
occipital

Difficulty: 3
QuestionID: 02-1-178
Page-Reference: 70-71
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.9

Answer: temporal

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

temporal lobes
parietal lobes
frontal lobes
occipital lobes

Difficulty: 1
QuestionID: 02-1-179
Page-Reference: 71
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.9

Answer: frontal lobes

180. **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?**

temporal
parietal
frontal
occipital

Difficulty: 3
QuestionID: 02-1-180
Page-Reference: 71
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.9

Answer: frontal

181. **After suffering a brain injury by falling from a ladder, Zack's wife continues to tell the doctor that his personality has changed. He used to be fun-loving and 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 _____ part of his cortex.**
    occipital lobe
    parietal lobes
    temporal lobes
    frontal lobes

Difficulty: 3
QuestionID: 02-1-181
Page-Reference: 71
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.9

Answer: frontal lobes

182. **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?**
    auditory association area
    motor cortex
    association areas
    somatosensory cortex

Difficulty: 3
QuestionID: 02-1-182
Page-Reference: 71
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.9

Answer: motor cortex

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

    auditory association area
    motor cortex
    association areas
    somatosensory cortex

Difficulty: 2
QuestionID: 02-1-183
Page-Reference: 71
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.9

Answer: motor cortex

184. **_____.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.**
    Mirror neurons
    Statue neurons
    Facial neurons
    Observation neurons

Difficulty: 3
QuestionID: 02-1-184
Page-Reference: 71
Topic: From the Bottom Up—The Structures of the Brain
Skill: C
Objective: 2.9

Answer: Mirror neurons

185. **Sammy is watching his father hammer a nail into a board. Which neurons are most likely firing?**

    Mirror neurons
    somatosensory neurons
    interneurons
    association neurons

Difficulty: 2
QuestionID: 02-1-185
Page-Reference: 71
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.9

Answer: Mirror neurons

186. **Incoming sensory messages are made sense of in _____.**

    Broca's area
    the motor projection areas
    the association areas
    Wernicke's area

Difficulty: 1
QuestionID: 02-1-186
Page-Reference: 71
Topic: From the Bottom Up—The Structures of the Brain
Skill: C
Objective: 2.10

Answer: the association areas

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

    Broca's
    Gall's
    Wernicke's
    Korsakoff's

Difficulty: 3
QuestionID: 02-1-187
Page-Reference: 72
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.10

Answer: Broca's

188. **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?**
    Broca's area
    Gall's area
    Wernicke's area
    Korsakoff's area

Difficulty: 3
QuestionID: 02-1-188
Page-Reference: 72
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.10

Answer: Broca's area

189. **The area at the back of the temporal lobe that is crucial in the ability to listen, process, and understand what others are saying is _____ area.**
    Broca's
    Gall's
    Wernicke's
    Korsakoff's

Difficulty: 1
QuestionID: 02-1-189
Page-Reference: 72
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.10

Answer: Wernicke's

190. **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.**
    Broca's
    Gall's
    Wernicke's
    Korsakoff's

Difficulty: 2
QuestionID: 02-1-190
Page-Reference: 72
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.10

Answer: Wernicke's

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

Difficulty: 3
QuestionID: 02-1-191
Page-Reference: 72
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.10

Answer: unilateral spatial neglect

192. **Which of the following is the upper part of the brain, consisting of two cerebral hemispheres and the structures that connect them?**
    occipital lobe
    cerebrum
    corpus callosum
    cerebellum

Difficulty: 1
QuestionID: 02-1-192
Page-Reference: 73
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.10

Answer: cerebrum

193. **Researcher Roger Sperry won a Nobel Prize for his research on epilepsy. Sperry cut through the _____, which joins the two hemispheres of the brain.**
    medulla
    pons
    pituitary gland
    corpus callosum

Difficulty: 1
QuestionID: 02-1-193
Page-Reference: 73
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.11

Answer: corpus callosum

194. **Since Norma is a split-brain patient, we can infer that she likely has a history of _____.**

mental illness
severe epilepsy
anosognosia
frontal lobe damage

Difficulty: 1
QuestionID: 02-1-194
Page-Reference: 73
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.11

Answer: severe epilepsy

195. **Pat has decided to undergo surgery to treat her severe epilepsy. Consequently, her doctors will use a surgical procedure during which they will sever her _____.**

parietal lobe
corpus callosum
cerebral cortex
subcortical structure

Difficulty: 3
QuestionID: 02-1-195
Page-Reference: 73
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.11

Answer: corpus callosum

196. **If Darren's brain is like that of most people, language will be handled by his _____.**

corpus callosum
occipital lobe
right hemisphere
left hemisphere

Difficulty: 2
QuestionID: 02-1-196
Page-Reference: 73
Topic: From the Bottom Up—The Structures of the Brain
Skill: A
Objective: 2.11

Answer: left hemisphere

197. **Which of the following is a function of the right hemisphere?**

perception, emotional thought, and recognition of patterns
sense of time and rhythm
speech, handwriting, and calculation
language processing in most individuals

Difficulty: 2
QuestionID: 02-1-197
Page-Reference: 74
Topic: From the Bottom Up—The Structures of the Brain
Skill: C
Objective: 2.11

Answer: perception, emotional thought, and recognition of patterns

198. **Which is a specific function of the left hemisphere of the brain?**

visual-spatial perception
emotional thought and recognition
mathematical calculations
pattern recognition

Difficulty: 1
QuestionID: 02-1-198
Page-Reference: 74
Topic: From the Bottom Up—The Structures of the Brain
Skill: F
Objective: 2.11

Answer: mathematical calculations

199. **Addie 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?**

the cerebellum
the basal ganglia
the striate nucleus
the corpus callosum

Difficulty: 2
QuestionID: 02-1-199
Page-Reference: 75
Topic: Applying Psychology to Everyday Life—Paying Attention to the Causes of Attention Deficit Hyperactivity Disorder
Skill: A
Objective: 2.11

Answer: the striate nucleus

200. **Which of the following cognitive abilities has been found to be normal in people diagnosed with attention deficit/hyperactivity disorder?**
    some aspects of attention
    vigilance (watching out for something important)
    staying on task
    engaging in self-control

Difficulty: 3
QuestionID: 02-1-200
Page-Reference: 75
Topic: Applying Psychology to Everyday Life—Paying Attention to the Causes of Attention Deficit Hyperactivity Disorder
Skill: F
Objective: 2.11

Answer: some aspects of attention

Chapter 02 True or False Questions

1. **One function of the nervous system is to send information to and from all parts of the body.**

    a True
    b False

QuestionID: 02-2-201
Page-Reference: 42
Objective: 2.1

Answer: a. True

2. **The axon receives messages from other neurons.**

    a True
    b False

QuestionID: 02-2-202
Page-Reference: 43
Objective: 2.1

Answer: b. False

3. **Glial cells provide structure for neurons.**

    a True
    b False

QuestionID: 02-2-203
Page-Reference: 43
Objective: 2.1

Answer: a. True

4. **Myelin not only insulates the neuron, but also slows down the neural message, helping with transmission of messages travelling down the axon.**
   a True
   b False

QuestionID: 02-2-204
Page-Reference: 44
Objective: 2.1

Answer: b. False

5. **Cell membranes are semipermeable.**

   a True
   b False

QuestionID: 02-2-205
Page-Reference: 44
Objective: 2.1

Answer: a. True

6. **Neurons that are at rest are still electrically charged.**

   a True
   b False

QuestionID: 02-2-206
Page-Reference: 45
Objective: 2.1

Answer: a. True

7. **During resting membrane potential, the neuron is positively charged inside and negatively charged outside.**
   a True
   b False

QuestionID: 02-2-207
Page-Reference: 45
Objective: 2.1

Answer: b. False

8. **A synapse is like a locked door that only certain neurotransmitter keys can unlock.**

   a True
   b False

QuestionID: 02-2-208
Page-Reference: 47-48
Objective: 2.2

Answer: b. False

9. **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.**
   a True
   b False

QuestionID: 02-2-209
Page-Reference: 48-49
Objective: 2.2

Answer: a. True

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

    a True
    b False

QuestionID: 02-2-210
Page-Reference: 51
Objective: 2.3

Answer: a. True

11. **Motor neurons carry messages from special receptors in the skin, from muscles, and from sense organs to the spinal cord.**
    a True
    b False

QuestionID: 02-2-211
Page-Reference: 52
Objective: 2.3

Answer: b. False

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

    a True
    b False

QuestionID: 02-2-212
Page-Reference: 52
Objective: 2.3

Answer: a. True

13. **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.**
    a True
    b False

QuestionID: 02-2-213
Page-Reference: 53
Objective: 2.3

Answer: b. False

14. **Stem cells are special cells capable of creating other cells, such as blood cells, nerve cells, and brain cells.**
    a True
    b False

QuestionID: 02-2-214
Page-Reference: 53
Objective: 2.3

Answer: a. True

15. **The somatic nervous system is made up of nerves carrying messages from the central nervous system to the muscles of the body.**
    a True
    b False

QuestionID: 02-2-215
Page-Reference: 54
Objective: 2.4

Answer: a. True

16. **Activation of the sympathetic nervous system leads to pupil dilation, inhibition of digestion, and an accelerated heartbeat.**
    a True
    b False

QuestionID: 02-2-216
Page-Reference: 55-56
Objective: 2.4

Answer: a. True

17. **Endocrine glands secrete chemicals directly into the body's tissues through ducts.**

    a True
    b False

QuestionID: 02-2-217
Page-Reference: 57
Objective: 2.5

Answer: b. False

18. **The pineal gland secrets a hormone called insulin.**

    a True
    b False

QuestionID: 02-2-218
Page-Reference: 58
Objective: 2.5

Answer: b. False

19. **If the pancreas secretes too little insulin, the result is diabetes.**

    a True
    b False

QuestionID: 02-2-219
Page-Reference: 58
Objective: 2.5

Answer: a. True

20. **If the body secretes too much insulin, the result is hyperglycemia.**

    a True
    b False

QuestionID: 02-2-220
Page-Reference: 58
Objective: 2.5

Answer: b. False

21. **The thyroid gland secretes a hormone called thyroxin.**

    a True
    b False

QuestionID: 02-2-221
Page-Reference: 58
Objective: 2.5

Answer: a. True

22. **Positron emission tomography (PET scan) is a brain-imaging method that uses radio waves and magnetic fields of the body to produce detailed images of the brain.**
    a True
    b False

QuestionID: 02-2-222
Page-Reference: 63
Objective: 2.6

Answer: b. False

23. **The medulla is responsible for people's ability to selectively attend to certain kinds of information in their surroundings.**
    a True
    b False

QuestionID: 02-2-223
Page-Reference: 65
Objective: 2.7

Answer: b. False

24. **The cortex "wrinkles" as a result of fluid filling the brain over the lifespan.**

    a True
    b False

QuestionID: 02-2-224
Page-Reference: 69
Objective: 2.8

Answer: b. False

25. **The occipital lobes contain the visual cortex, where visual signals are processed.**

    a True
    b False

QuestionID: 02-2-225
Page-Reference: 70
Objective: 2.9

Answer: a. True

26. **A person who suffered brain damage is likely to have problems controlling his or her emotions as a result of damage with the connection from the temporal lobe to the limbic system.**
    a True
    b False

QuestionID: 02-2-226
Page-Reference: 70-71
Objective: 2.9

Answer: b. False

27. **The cerebrum is divided into two hemispheres that control opposite sides of the body.**

    a True
    b False

QuestionID: 02-2-227
Page-Reference: 73-74
Objective: 2.11

Answer: a. True

28. **The cerebral cortex is severed in individuals who are considered to have a "split-brain" after a surgery to stop epileptic seizures.**
    a True
    b False

QuestionID: 02-2-228
Page-Reference: 73
Objective: 2.11

Answer: b. False

Chapter 02 Short Answer Questions

1. **List the three main parts of the neuron and explain the role that each plays in the transmission of neural communication.**

QuestionID: 02-3-229
Page-Reference: 43-44
Objective: 2.1

Answer:

2. **List two different functions of glial cells.**

QuestionID: 02-3-230
Page-Reference: 43-44
Objective: 2.1

Answer:

3. **What is a synapse?**

QuestionID: 02-3-231
Page-Reference: 47
Objective: 2.2

Answer:

4. **What are neurotransmitters?**

QuestionID: 02-3-232
Page-Reference: 47-48
Objective: 2.2

Answer:

5. **Name three neurotransmitters and their functions.**

QuestionID: 02-3-233
Page-Reference: 48-49
Objective: 2.2

Answer:

6. **Explain the difference between the central nervous system (CNS) and the peripheral nervous system (PNS).**

QuestionID: 02-3-234
Page-Reference: 51-54
Objective: 2.3-2.4

Answer:

7. **What is the difference between the sympathetic and parasympathetic nervous systems?**

QuestionID: 02-3-235
Page-Reference: 55-56
Objective: 2.4

Answer:

8. **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.**

QuestionID: 02-3-236
Page-Reference: 58-59
Objective: 2.5

Answer:

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

QuestionID: 02-3-237
Page-Reference: 61-62
Objective: 2.6

Answer:

10. **Why is the cortex in the brain so wrinkled?**

QuestionID: 02-3-238
Page-Reference: 69
Objective: 2.8

Answer:

11. **What are the symptoms of Broca's aphasia?**

QuestionID: 02-3-239
Page-Reference: 72
Objective: 2.10

Answer:

12. **What are the symptoms of Wernicke's aphasia?**

QuestionID: 02-3-240
Page-Reference: 72
Objective: 2.10

Answer:

13. **What are the differences in how the right and left cerebral hemispheres function?**

QuestionID: 02-3-241
Page-Reference: 73-74
Objective: 2.11

Answer:

14. **Briefly explain Roger Sperry's split-brain research.**

QuestionID: 02-3-242
Page-Reference: 73-74
Objective: 2.11

Answer:

Chapter 02 Essay Questions

1. **What is a neuron? Describe the three parts of a neuron and their functions. Explain the process of how a neural message is transmitted from the end of one neuron to the beginning of another and the process by which a neuron moves from a resting state (resting potential) to firing (action potential) and then back to a resting state.**

QuestionID: 02-4-243
Page-Reference: 42-48
Objective: 2.1-2.2

Answer:

2. **Describe the functions of the brain and the spinal cord. How are these functions similar? How are these functions dissimilar?**

QuestionID: 02-4-244
Page-Reference: 51-52
Objective: 2.3

Answer:

3. **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.**

QuestionID: 02-4-245
Page-Reference: 55-56
Objective: 2.4

Answer:

4. **How does the endocrine system influence behaviour? Describe the functions of three glands and the hormones that each secretes.**

QuestionID: 02-4-246
Page-Reference: 57-59
Objective: 2.5

Answer:

5. **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.**

QuestionID: 02-4-247
Page-Reference: 60-63
Objective: 2.6

Answer: