

Workbook



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The Nervous System

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Questions

- 1) Neurons contain _____, which can receive signals from other neurons.
 - a. axons
 - b. mitochondria
 - c. dendrites
 - d. Golgi bodies

- 2) A(n) _____ neuron has one axon and one dendrite extending directly from the cell body.
 - a. unipolar
 - b. bipolar
 - c. multipolar
 - d. pseudounipolar

- 3) Glia that provide myelin for neurons in the brain are called _____.
 - a. Schwann cells
 - b. oligodendrocytes
 - c. microglia
 - d. astrocytes

- 4) For a neuron to fire an action potential, its membrane must reach _____.
 - a. hyperpolarization
 - b. the threshold of excitation
 - c. the refractory period
 - d. inhibitory postsynaptic potential

- 5) After an action potential, the opening of additional voltage-gated _____ channels and the inactivation of sodium channels, cause the membrane to return to its resting membrane potential.
 - a. sodium
 - b. potassium
 - c. calcium
 - d. chloride

Introduction to Biology

- 6) What is the term for protein channels that connect two neurons at an electrical synapse?
- Synaptic vesicles
 - Voltage-gated ion channels
 - Gap junction protein
 - Sodium-potassium exchange pumps
- 7) Which of the following molecules is not involved in the maintenance of the resting membrane potential?
- Potassium cations
 - Sodium
 - Voltage-gated ion channels
 - Calcium cations
- 8) The _____ lobe contains the visual cortex.
- frontal
 - parietal
 - temporal
 - occipital
- 9) The _____ connects the two cerebral hemispheres.
- limbic system
 - corpus callosum
 - cerebellum
 - pituitary
- 10) Neurons in the _____ control motor reflexes.
- thalamus
 - spinal cord
 - parietal lobe
 - hippocampus
- 11) Phineas Gage was a 19th century railroad worker who survived an accident that drove a large iron rod through his head. If the injury resulted in him becoming temperamental and capricious what part of his brain was damaged?
- Frontal lobe
 - Hippocampus
 - Parietal lobe
 - Temporal lobe

Introduction to Biology

- 12)** Activation of the sympathetic nervous system causes:
- increased blood flow into the skin
 - a decreased heart rate
 - an increased heart rate
 - increased digestion
- 13)** Where are parasympathetic preganglionic cell bodies located?
- Cerebellum
 - Brainstem
 - Dorsal root ganglia
 - Skin
- 14)** _____ is released by motor nerve endings onto muscle.
- Acetylcholine
 - Norepinephrine
 - Dopamine
 - Serotonin
- 15)** Parkinson's disease is caused by the degeneration of neurons that release _____.
- serotonin
 - dopamine
 - glutamate
 - norepinephrine
- 16)** Strokes are often caused by _____.
- neurodegeneration
 - blood clots or burst blood vessels
 - seizures
 - viruses
- 17)** Why is it often difficult to identify the cause of many nervous system disorders?
- The genes associated with the diseases are not known.
 - There are no obvious defects in brain structure.
 - The onset and display of symptoms varies between patients.
 - All of the above

Answer Key

- 1) c
- 2) b
- 3) b
- 4) b
- 5) b
- 6) c
- 7) d
- 8) d
- 9) b
- 10) b
- 11) d
- 12) c
- 13) b
- 14) a
- 15) b
- 16) b
- 17) d