Exit Card: Nervous System and Neural Pathways

1. Which of the following is the correct sequence of events during an action potential?

A. Depolarization → Hyperpolarization → Repolarization

B. Hyperpolarization → Depolarization → Repolarization

C. Depolarization → Repolarization → Hyperpolarization

D. Repolarization → Depolarization → Hyperpolarization

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2. What triggers the release of neurotransmitters from the synaptic vesicles into the synaptic cleft?

A. Diffusion of sodium ions into the axon

B. Binding of neurotransmitters to the presynaptic membrane

C. Arrival of an action potential at the synaptic terminal

D. Opening of potassium channels in the postsynaptic membrane

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3. Which of the following correctly describes the role of interneurons in the nervous system?

A. They transmit sensory signals to the effectors.

B. They act as a bridge between sensory and motor neurons.

C. They generate motor output to muscles or glands.

D. They are found exclusively in the peripheral nervous system.

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4. During an action potential, what is the membrane potential when sodium ions rush into the axon?

A. −70 mV

B. −50 mV

C. +40 mV

D. −90 mV

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5. What happens if the threshold potential is not reached in a neuron?

A. A smaller action potential is generated.

B. No action potential occurs.

C. Neurotransmitters are released but no response follows.

D. Hyperpolarization occurs immediately.

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