

### 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.