

**A.3.3. The Action Potential –MCQ's**

1. In a particular nerve cell, the resting potential is -80 mV and its threshold value is -65mV. We stimulate this cell with a stimulus of +20 mV. What will happen?
  - a. the stimulus is strong enough to initiate half an action potential
  - b. the stimulus is strong to initiate an action potential of 20 mV amplitude
  - c. the stimulus is not strong enough to initiate any action potential
  - d. the stimulus is strong enough to initiate a full action potential
  - e. the stimulus should be -20 mV to initiate an action potential
  
2. In a particular nerve cell, the resting potential is -80 mV and its threshold value is -65mV. We stimulate this cell with a stimulus of +10 mV. What will happen?
  - a. the stimulus is strong enough to initiate a full action potential
  - b. the stimulus is strong enough to initiate half an action potential
  - c. the stimulus is strong to initiate an action potential of 20 mV
  - d. the stimulus is not strong enough to initiate an action potential
  - e. the stimulus will initiate a negative action potential
  
3. In a particular nerve cell, an action potential had been initiated at t=0 msec. The duration of the depolarization is 4 msec and that of its repolarization is 10 msec. Now, I want to induce a second action potential. At which earliest time is it possible, using a very strong stimulus, to induce a second action potential?
  - a. t=0 msec
  - b. t=1 msec
  - c. t=2 msec
  - d. t=3 msec
  - e. t=10 msec
  
4. Which ion is responsible for the depolarization phase of an action potential?
  - a. Na<sup>+</sup>
  - b. K<sup>+</sup>
  - c. Ca<sup>2+</sup>
  - d. Cl<sup>-</sup>
  - e. O<sub>2</sub>
  
5. Which ion is responsible for the repolarization phase of an action potential?
  - a. Na<sup>+</sup>
  - b. K<sup>+</sup>
  - c. Ca<sup>2+</sup>
  - d. Cl<sup>-</sup>
  - e. O<sub>2</sub>

**Answers:**

1. d.
2. d.
3. d.
4. a.
5. b.