**PSY 511.001**

**Fall 2019**

**Quiz 2**

(10 points)

**Instructions**

Type answers to the questions below using complete sentences. You may take a bit more space than indicated below if needed, but please be concise.

Please take no more than 45 min to complete this quiz. You *may* use your textbook or other online sources to answer these questions. If you do use other sources, please indicate that in the resources section at the end of the document.

Bring a printed copy to class on Friday, November 1, 2019. If you will miss class, you may put your quiz in my mailbox, but please email me to let me know to retrieve it.

**Questions**

1. Describe the concentration and electrostatic gradients that act on K+ in the neuron at rest.

1. Describe the concentration and electrostatic gradients that act on Na+ in the neuron at rest.
2. What event(s) trigger the *rising phase* of the action potential?
3. The movement of which ion causes the falling phase of the action potential? Which direction does this ion move during the falling phase?
4. Briefly describe the roles of glutamate and GABA in the CNS.

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1. Describe one of the phases of human brain development that ends before birth and a second that continues well after birth.
2. Which sensory systems use information derived from comparing signals from two spatially separate sensors?

1. Why does Gilmore say the retina is physiologically backwards and anatomically inside-out?
2. What structural feature of the sensory cerebral cortex reflects the fact that peripheral sensors are not uniformly distributed across, for example, the skin or the retina.
3. Give an example of functional segregation, the separation of processing into distinct channels, in a sensory or motor system.

**Bonus**

1. Benzodiazepines like Valium bind to a site on which neurotransmitter receptor? Do they serve as agonists, facilitating normal transmission, or antagonists, impeding it?
2. The cells lining the cerebral ventricles and central canal of the spinal cord may be critical to the development of treatments for neurodegenerative diseases. Why?

**Resources consulted**