1. After Lola began using a street drug to enhance her moods, she discovered that she needed larger and larger doses of the drug in order to feel the drug's effect. Use your understanding of the neurotransmission process to explain Lola's experience.

2. The ancient Greek physician Hippocrates believed that four basic body fluids (blood, black bile, yellow bile, and phlegm) influenced human behavior, emotions, and personality. Use your understanding of the body's rapid and slower chemical communication systems to support or refute the general logic of Hippocrates' theory.

3. Describe specific functions of our older brain structures, which reveal that our brains are responsible for much more than simply our capacity to think.

4. Describe how damage to specific structures in your limbic system would likely affect your experience of (a) emotions such as anxiety and elation, (b) motives such as hunger and sex drive, and (c) memories such as recall of familiar faces or locations.

5. After suffering a head injury in an auto accident, Alyssa says that she remembers what her mother looks like, and she can accurately recall many of her mother's distinctive facial features. However, when she is shown pictures of her mother, Alyssa is unable to recognize who it is, even though she can see clearly. Use your understanding of the functioning brain to account for Alyssa's strange pattern of experience.

6. Describe how an understanding of both a normally functioning brain and a split brain enables us to better appreciate the fact that most information processing takes place outside of conscious awareness.

7. Describe one of your personality traits that you believe to be heavily influenced by your unique genetic profile and another trait that seems to be much less so. Provide reasons for your answer, and explain why you would expect genetics to exert a greater impact on some personality traits than on others.

8. Mr. Firkin is a shy and reserved person who often feels tense and nervous. In therapy, he recalled that he had an unhappy childhood, feeling that he did not receive enough attention from his mother and resenting the conservative family discipline and lifestyle enforced by his father. He blames both parents for his current anxiety, unhappiness, and loneliness. In light of your understanding of the interactive influences of nature and nurture, explain why Mr. Firkin's complaints about his parents may be somewhat unfair and unhelpful.

1. The study of the links between biology and behavior is called
   A) neurology.
   B) cognitive psychology.
   C) endocrinology.
   D) biological psychology.

2. Dr. Wolski conducts research on the relationship between neurotransmitter deficiencies and mood states. Dr. Wolski's research focus is most characteristic of
   A) tomography.
   B) biological psychology.
   C) psychoanalysis.
   D) cognitive psychology.

3. A biological psychologist would be most interested in conducting research on the relationship between
   A) neurotransmitters and depression.
   B) age and bone density.
   C) self-esteem and popularity.
   D) genetics and eye color.

4. Neurons are best described as
   A) positively charged sodium and potassium ions.
   B) chemical molecules that cross the synaptic gap.
   C) nerve cells that function as the building blocks of the nervous system.
   D) bundled axon cables that connect the CNS with muscles, glands, and sense organs.

5. Dendrites are branching extensions of
   A) neurotransmitters.
   B) endorphins.
   C) neurons.
   D) glial cells.

6. The function of dendrites is to
   A) receive incoming signals from other neurons.
   B) release neurotransmitters into the spatial junctions between neurons.
   C) coordinate the activation of the parasympathetic and sympathetic nervous systems.
   D) control pain through the release of opiate-like chemicals into the brain.

1. A neuron is best described as a(n)
   A) ion.
   B) cell.
   C) sheath.
   D) molecule.

2. Which of the following is most clearly characterized by a temporary inflow of positively charged sodium ions through an axon membrane?
   A) reuptake
   B) an action potential
   C) a refractory period
   D) the resting potential

3. Drugs that block the reuptake of serotonin will thereby increase the concentration of serotonin molecules in the
   A) axon terminals.
   B) synaptic gaps.
   C) glial cells.
   D) endocrine glands.

4. Natural, opiate-like neurotransmitters linked to pain control are called
   A) ACh agonists.
   B) dendrites.
   C) morphine antagonists.
   D) endorphins.

5. Botox injections smooth facial wrinkles because botulin is a(n)
   A) ACh antagonist.
   B) dopamine antagonist.
   C) ACh agonist.
   D) dopamine agonist.

6. The vast majority of neurons in the body's information system are
   A) glial cells.
   B) interneurons.
   C) motor neurons.
   D) sensory neurons.

1. An axon transmits messages _____ the cell body and a dendrite transmits messages _____ the cell body.
   A) away from; toward
   B) away from; away from
   C) toward; away from
   D) toward; toward

2. To excite or inhibit an action potential in a receiving neuron, a neurotransmitter must cross the
   A) axon.
   B) synaptic gap.
   C) myelin sheath.
   D) endocrine glands.

3. The release of _____ to muscle cell receptors triggers muscle contractions.
   A) ACh
   B) serotonin
   C) dopamine
   D) adrenaline

4. Depressed mood states are linked to _____ levels of serotonin and _____ levels of norepinephrine.
   A) low; low
   B) high; high
   C) low; high
   D) high; low

5. A drug molecule that increases the release of a neurotransmitter into the synaptic gap is a(n)
   A) glutamate.
   B) steroid.
   C) agonist.
   D) opiate.

6. The peripheral nervous system consists of
   A) interneurons.
   B) the spinal cord.
   C) endocrine glands.
   D) sensory and motor neurons.