

Biological Foundations of Behavior

Chapter 3 (123 points)

1. Define, describe (include location) and identify the function of each of the following: (2 points each)

Nervous System

- a. Afferent nerves
- b. Efferent nerves
- c. Neural networks
- d. Central nervous system (CNS)
- e. Peripheral nervous system (PNS)
- f. Somatic nervous system
- g. Automatic nervous system
- h. Sympathetic nervous system
- i. Parasympathetic nervous system

Cells

- j. Neurons
- k. Glial cells
- l. Cell body
- m. Dendrites
- n. Axon
- o. Myelin sheath

- p. Synapses
- q. Synaptic gap
- r. Neurotransmitters

Brain

- s. Cerebral cortex
- t. Corpus callosum
- u. Hindbrain
- v. Midbrain
- w. Forebrain
- x. Hemispheres (left and right)

2. Define and discuss the following: (6 points)

- a. Resting potential
- b. Action potential
- c. All-or-none principle

3. Identify which part of the nervous system would be most involved in each the following instances? (6 points)

You (1) see a person coming toward you, (2) realize it is someone famous, (3) get excited, (4) wave and shout, (5) suddenly realize it was not the famous person, and (6) become suddenly calm again.

4. Identify the role, function and pathway of each of the following neurotransmitters: (15 points)
 - a. Acetylcholine
 - b. GABA
 - c. Norepinephrine
 - d. Dopamine
 - e. Serotonin
 - f. Endorphins
5. What type of drug mimics or increases a neurotransmitter's effect? Give an example. (1 point)
6. What type of drug blocks a neurotransmitter's effect? Give an example. (1 point)
7. Discuss how each of the following methods is used in the study of the brain and nervous system include the area and/or function each is able to examine. (15 points)
 - a. Brain lesions research
 - b. Staining
 - c. EEG
 - d. CT scan
 - e. PET scan
 - f. MRI
8. Which hemisphere is associated with verbal processing? Nonverbal processing? (1 point)
9. What factors favor recovery of function in damaged brains? (2 points)
10. Discuss three ways in which a damaged brain might repair itself. (6 points)
11. Describe what the endocrine system is and how it affects behavior. (2 points)
12. Discuss the three ways to study genetics. (5 points)
13. Discuss the relationship between genetics and evolution. (2 points)
14. Discuss how evolutionary theory explains development of human behavior. (2 points)
15. Why do some critics criticize evolutionary psychology? (1 point)