

Chapter 9 Review Questions

1. Define a reflex. How are reflexes related to the maintenance of homeostasis?
2. What is a reflex arc? List and define the components of a reflex arc.
3. Explain how a membrane becomes polarized.
4. Describe how ions associated with nerve cell membranes are distributed.
5. Define resting potential.
6. Outline the principal steps in the origin and conduction of a nerve impulse.
7. Define the following; resting potential, polarized membrane, action potential, depolarized membrane, and repolarized membrane.
8. What is the all-or-none principle? Relate it to threshold stimulus, subthreshold stimulus and summation.
9. Explain how nerve impulses are related to action potentials.
10. Explain how impulses are conducted on myelinated and unmyelinated nerve fibers.
11. Define a synapse.
12. Explain how a nerve impulse passes from one neuron to another.
13. Explain what happens to neurotransmitters after they are released.
14. Distinguish between excitatory and inhibitory actions of neurotransmitters. Give two examples of each type of neurotransmitter.
15. Describe the general functions of the autonomic nervous system.
16. Distinguish between the sympathetic and the parasympathetic divisions of the nervous system.
17. Discuss the distinction between cholinergic and adrenergic fibers of the autonomic nervous system.
18. Give the sympathetic response in a fear situation for each of the following body parts: hair follicles, iris of eye, lungs, urinary bladder, stomach, gallbladder, intestines, heart, arterioles of the abdominal viscera, skeletal muscles, skin and mucosa.
19. Define limbic system and explain its functions.
20. Name the three major portions of the brain, and describe the general functions of each.
21. Name the parts of the brain stem, and describe the major functions of each part.
22. Where do motor and sensory nerve fibers cross over in the brain? What does this cause to happen, as far as directions coming into and out of the brain?