Practice Questions Ch 4:

1. The supporting cells that form myelin sheath in the peripheral nervous system.
   A. Oligodendrocytes.  
   B. Satellite cells.  
   C. Schwann cells.  
   D. Astrocytes.  
   E. Microglia.

2. Depolarization of a cell (neuron, muscle, or glandular) is produced by
   A. inward movement of Na+  
   B. outward movement of K+.  
   C. outward movement of Na+  
   D. inward movement of K+.

3. Repolarization of a cell (neuron, muscle, or glandular) is produced by
   A. inward movement of Na+.  
   B. outward movement of K+.  
   C. outward movement of Na+.  
   D. inward movement of K+.

4. A drug that inactivates acetylcholinesterase
   A. inhibits the release of ACh from a presynaptic neuron.  
   B. inhibits the attachment of ACh to its receptor.  
   C. inhibits ACh breakdown and causes excessive muscle contraction.  
   D. does all of these.

5. Repolarization (a.k.a. hyperpolarization) of the postsynaptic membrane in response to glycine or GABBA is produced by the opening of
   A. Na+ channels.  
   B. K+ channels.  
   C. Ca+2 channels.  
   D. Cl- channels.  
   E. H+ channels.

6. Which of these statements about ACh receptors is false?
   A. Skeletal muscles contain nicotinic ACh receptors.  
   B. The heart contains muscarinic ACh receptors.  
   C. G-proteins are activated to open ion channels for nicotinic receptors.  
   D. ACh receptors can be either nicotinic or muscarinic.

7. Which of these statements about adrenergic receptors is false?
   A. β1-adrenergic receptors are found in the heart.  
   B. β2-adrenergic receptors are found on skeletal muscles.  
   C. α-adrenergic receptors are found in smooth muscle of the GI tract.  
   D. β2-adrenergic receptors are found in smooth muscle of bronchioles.

8. Will increase heart rate.
   A. ACh binding to muscarinic cholinergic receptors.  
   B. ACh binding to nicotinic cholinergic receptors.  
   C. Epinephrine binding to nicotinic cholinergic receptors.  
   D. Epinephrine binding to β2-adrenergic receptors.  
   E. Epinephrine binding to α-adrenergic receptors.  
   F. Epinephrine binding to β1-adrenergic receptors.

9. Will cause bronchodilation.
10. Will slow activity of GI tract smooth muscle.
11. Will speed up activity of GI tract smooth muscle.
12. Will decrease heart rate.
13. Which of the following neurotransmitters is a monoamine produced from tryptophan?
   A. ACh  D. Glycine
   B. Dopamine  E. Serotonin
   C. GABA  F. Epinephrine

14. Exposure to which of the following produces hypertonia?
   A. Botulism toxin  E. Sarin gas
   B. Tetanus toxin  F. Organophosphate insecticides
   C. Saxitoxin  G. answers A, C, and D
   D. Tetrodotoxin  H. answers B, E, and F.

15. Which of the following is a disorder involving autoimmune destruction of ACh receptors on muscles?
   A. Alzheimer’s disease  E. Myasthenia gravis
   B. Amyotrophic lateral sclerosis  F. Parkinson’s disease
   C. Multiple sclerosis  G. Cystic fibrosis
   D. Huntington’s disease
Ch 4. Answers:
1. C
2. A
3. B
4. C
5. D
6. C
7. B
8. F
9. D
10. E
11. A
12. A
13. E
14. H
15. E

*How did you do?*