Practice Questions Ch 3:

1. The majority of water within the body is found in the
   A. intracellular compartment.     C. blood plasma.
   B. extracellular compartment.    D. interstitial fluid.

2. ___________ is a term which describes a membrane that allows only certain molecules to penetrate it.
   A. Permeable         C. Porous
   B. Selectively permeable  D. Countertransport

3. ___________ transport does not require membrane proteins.
   A. Facilitated diffusion  C. Simple diffusion
   B. Bulk                  D. Active

4. Individuals suffering from cystic fibrosis have a recessive condition resulting in defective ___________ ion channels.
   A. sodium              C. calcium
   B. chloride            D. potassium

5. Which of the following is able to passively penetrate the plasma membrane because it is highly permeable?
   A. O2               C. large polar molecules
   B. small charged particles  D. All of these choices are correct.

6. The rate of diffusion is influenced by
   A. the concentration gradient.  C. membrane surface area.
   B. membrane permeability.      D. All of these choices are correct.

7. Hypertonic solutions stimulate cellular swelling and possible lysis.
   A. TRUE           B. FALSE

8. Cells placed in hypotonic solutions will
   A. decrease in volume.      C. increase in volume.
   B. lose water to the solution.    D. not change.

9. The Na+/K+ pump
   A. is an example of secondary active transport.
   B. generates a positive membrane potential.
   C. actively transports 3 K+ out of the cell and 2 Na+ into a cell.
   D. actively transports 2 Na+ out of a cell and 3 K+ into a cell.
   E. actively transports 3 Na+ out of a cell and 2 K+ into a cell.
   F. actively transports 3 Na+ into the cell and 2 K+ out of the cell.

10. The normal resting membrane potential of a cell is ___________ mV.
    A. -30   B. -50   C. -70   D. +30   E. +70

11. What type of cell signaling occurs that targets nearby cells?
    A. endocrine signaling  C. gap junctions
    B. synaptic signaling   D. paracrine signaling

12. Which form of passive transport relies on fluid pressure?
    A. Simple diffusion  C. Osmosis
    B. Facilitated diffusion  D. Filtration
13. Which form of bulk transport allows endocytosis of fluids?
   A. Receptor-mediated
   B. Pinocytosis
   C. Phagocytosis

14. A depolarized cell temporarily has a membrane potential of
   A. -30       B. -50       C. -70       D. +30       E. +70

15. All of the following would have high permeability through a cell membrane except
   A. Na+       B. CO₂       C. ethanol      D. water      E. urea
Ch 3. Answers:
1. A
2. B
3. C
4. B
5. A
6. D
7. B
8. C
9. E
10. C
11. D
12. D
13. B
14. D
15. A

How did you do?