AP Biology 1/12/15

Cell Membrane and Transport Review

1. What is the contribution of the phospholipid bilayer to the cell membrane’s selective permeability?

2. What is the contribution of transport proteins to the cell membrane’s selective permeability?

3. What substances can easily diffuse through a cell’s membrane? Why?

4. What substances require the help of a transport protein? When is this considered active transport and when is this considered facilitated diffusion (passive)?

5. How does the presence of cholesterol in the cell membrane affect its fluidity?

6. When does osmosis occur?

1. What would happen to a cell that contains 4.0 moles of solute inside it if it were placed in a cup of water of water with 2.0 moles of sodium chloride?

A. shrivel B. burst C. stay the same

2. Which of the following compounds will require a carrier protein in order to cross the cellular membrane?

A. Glucose B. Oxygen C. Protein D. Steroid

1. Of the following, which is most likely to pass through the cell membrane via passive transport?
2. Glucose B. Oxygen C. Protein D. Steroid
3. How are integral proteins introduced into the cellular membrane of a eukaryotic cell?

A. exocytosis supplies the membrane with the necessary proteins, which are present on the secretory vesicle

B. Cytoplasmic ribosomes translate the necessary proteins and send them to the membrane.

C. Cells have all of the necessary membrane proteins upon completing mitosis

D. Endocytosis

1. Which of the following molecules can freely diffuse through the cell membrane?

A. Glucose (C6H12O6)

B. Water (H2O)

C. Insulin

D. Sodium Ions (Na+)

E. Oxygen (O2)

1. Where would aspartic acid, an amino acid with a negatively charged side chain, most likely be found in a transmembrane protein?

A. within the membrane interior, outside the cell, or inside the cell

B. inside the cell

C. Within the membrane interior

D. Outside or inside the cell

E. Outside the cell