RAVEN CHAPTER 5 GUIDED NOTES: MEMBRANES

Raven 9th edition

1. Describe the structure of a phospholipid molecule. Be sure to describe their behavior in relation ship to water.

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   _____

   _____

2. What happens when a collection of phospholipids molecules are placed in water?

   _____

   _____

3. Explain the significance of this behavior in relationship to the evolution of life.

   _____

   _____

4. What is meant by the phrase “the plasma membrane is fluid”?

   _____

   _____

5. Explain the fluid mosaic model.

   _____

   _____

   _____

6. How is the fluidity of the cell membrane altered?

   _____

   _____

7. Describe the components of the cell membrane. Explain the function of each and give an example

a.

_____
_____

b.

_____
_____

c.

_____
_____

d.

_____
_____

8. List and briefly describe the different classes of membrane proteins and the roles they play.

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

9. Describe how the structure of membrane proteins allows some proteins to be permanently anchored within the cell membrane as a transmembrane protein whereas other proteins can move freely about the surface of the membrane.

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_____

_____

_____

10. The cell membrane is selectively permeable. Explain what that means. Which molecules easily cross the membrane? How are molecules transported that do not easily cross the membrane?

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_____

_____

11. Define the following

12. a. Diffusion

_____

_____

b. Facilitated Diffusion_____

_____

c. Osmosis

_____

_____

d. Hypotonic

_____

_____

e. Hypertonic

_____

_____

f. Isotonic

_____

12. Explain how facilitated diffusion works and give an example.

_____

_____

_____

13. What is the function of aquaporins? Why are they necessary?

_____

_____

_____

14. What do animal & plant cells do when placed in solutions that are:

a. Hypotonic

_____

b. Hypertonic

_____

c. Isotonic

_____

17.

18. What is the difference between exocytosis and endocytosis?

_____
_____
_____

19. Distinguish between pinocytosis and phagocytosis.
_____
_____

20. Describe an example of receptor-mediated endocytosis.
_____
_____
_____

21. How do active and passive transport differ?
_____
_____

22. The sodium-potassium pump uses _____ to pump _____ out of the cell and _____ into the cell.

23. Define coupled transport and give an example.
_____
_____

24. Define counter transport and give an example
_____