

Class/Lab Activity #3 Physiology

Questions to Consider from the Plasma Membrane Lecture:

1. List and briefly Describe the 4 roles of the **Plasma Membrane** (with specific examples if possible):

- 1)
- 2)
- 3)
- 4)

2. With regard to **Protein Channels** and **Protein Carriers**:

a) What are the 3 **gated Protein Channels** described in lecture? Give examples of their 'triggers'.

- 1)
- 2)
- 3)

b) What are three characteristics of **Protein Carriers** listed and described in lecture?

- 1)
- 2)
- 3)

3. With regard to **Surface Area** and **Rate of Diffusion**:

What are two regions of the body given as examples of having an enormous surface area for absorption?

Answers: The _____ and the _____.

4. *Philosophical Question:* With regard to the Na^+/K^+ pumps, what is the **purpose** of the Na^+/K^+ pump?

5. What the hormone (and gland) that has an effect on the number of Na^+/K^+ pumps? Describe the effect this hormone has on the pumps and then on the body as a consequence?

6. On the topic of **Water**: About how many liters of water are there in a typical 150 lbs person? _____.

7. In terms of the 3 Tissue Compartments, where is most of the water in the body located? _____.

8. What are the **3 Tissue Compartments** and state *briefly* how they differ?

- 1)
- 2)
- 3)

9. Name the examples of vesicular transportation given in lecture.

10. What's with **Transcapillary Fluid Dynamics**? How/why are HP and COP balanced in the capillary?

From Neurophysiology Lecture

11. Name the 2 "long distance" control systems in the body: _____ and _____.

12. Briefly describes how these two control systems in the body differ?

13. *Semi-Philosophical Question:* How is the Neuron the **microcosm** of the Nervous System reflex loop?

14. What is the point of talking about **Equilibrium Potentials** for Na^+ and K^+ ?

15. Draw an **Action Potential** for a **Neuron** on axis's below. Include all labels and values and phases, etc.



16. List 6 ways that **Graded Potentials** are different from **Action Potentials**.

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)

17. *Philosophical Question:* What are the purposes of Graded Potentials and Action Potentials?

18. In very simple terms, a graded potential is: _____.

19. Why is it not possible to trigger another AP during the absolute refractory period?

20. Why is it possible to trigger another AP during the relative refractory period?