Class/Lab Activity #2 Physiology

Questions to Consider from Introductory Content:

1. What large structure connects the two cerebral hemispheres of brain? _____.
About _____ axons travels across and create that structure.

2. Break down the word **hyperkalemia** to show what it means: _____.

3. Give the lecture definition* for **a)** a Negative Feedback Loop and **b)** Positive Feedback Loop.
a) _____.
b) _____.

* Not the examples, but the *definitions*!

4. Name the integration center for the example given of a positive feedback loop and what it releases.

5. Name the effector tissues for the specific example of a negative feedback loop in class (there were 2).

6. List two important **polar molecules** and two **non-polar molecules** in our physiology class so far.

7. Name and briefly describe the 4 properties of Water!

8. Very briefly describe the 1st and 2nd Laws of Thermodynamics as they relate to Physiology.
1st =
2nd =

9. Very briefly describe anabolic and catabolic reaction in the body.
Anabolic =
Catabolic =

Questions to Consider from Enzymes Content:

10. All enzymes are **a)** _____ that act as biological **b)** _____.

11. Enzymes increase the **a)** _____ of a chemical reaction without being **b)** _____.

12. Suggest the best optimum pH range for **salivary amylase** to break down starch in the mouth.
a) 6 to 7 **b)** 6.2 to 6.4 **c)** 7.35 to 7.45 **d)** 7.0 to 7.35 **e)** 6.7 to 7.0

13. If an enzyme has a non-competitive inhibitor present, then:
a) the active site is blocked but the reaction will still occur
b) there is a binding away from the active site that increases the activity of the enzyme
c) the active site is blocked and the activity of the enzyme is inhibited
d) there is a binding away from the active site that inhibits the activity of the enzyme

14. What does the enzyme *alcohol dehydrogenase* do? _____.

15. What are the **3 Factors** that influence the permeability of a molecule moving across a membrane? Describe them and give specific examples for each.

1)
2)
3)

16. Give **6** important examples of **factors that influence the rate of diffusion** and how they do so**.**

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

Questions to Consider from Cell Membrane and Lab Experiment Content:

17. Define Filtration:

18. Define Hydrostatic Pressure:

19. Define Reabsorption:

20. Define Colloid Osmotic Pressure:

21. Which of the following statements are true for a normal healthy **plasma membrane**?

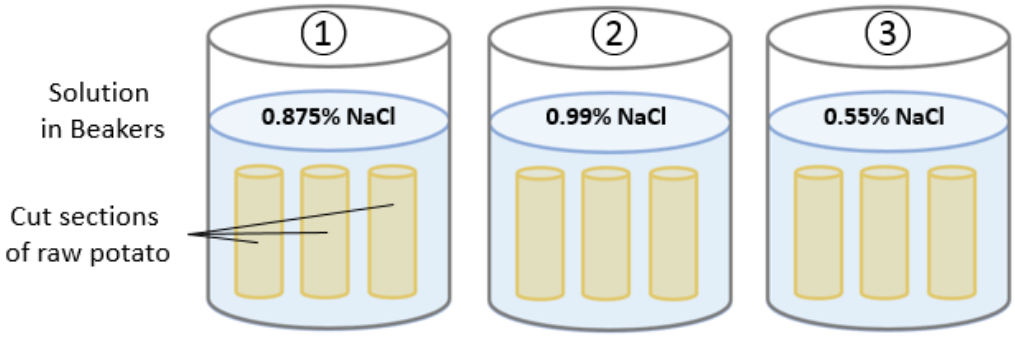
1. it's impermeable **2.** contains glycolipids **3.** contains cholesterol **4.** is identical in content for every cell

a) 3 and 2 **b)** 1, 2 and 4 **c)** 1 and 2 **d)** 1, 2 and 3 **e)** 1, 2, 3 and 4

22. All of the following statements about **ion channels** are true except: (i.e., select the *false* statement)

a) they are present in plasma membranes **b)** they are formed by membrane spanning proteins
c) some channels are always open **d)** all channels respond to changes in voltage
e) some channels open and close in response to chemicals.

23. Display your understanding of what will occur in the beakers below from what know in physiology.



a) Osmolarity: ① =_____ ② =_____ ③ =_____

b) Tonicity: is _____ is _____ is _____

c) Potato Change*: _____ _____ _____

**Meaning did Potato: "gain water", "lose water", or "no net change in water".*