**AICE Biology Guided Reading: Coordination (J&F Ch 15)***This guided reading is worth 60 points and is due Monday, April 16. This is it. The FINAL GUIDED READING!!*

1. Describe the two ways by which mammals coordinate the body’s activities. [1]
2. Diagram and label a mammalian neuron cell. Include brief descriptions of the following features: axon, dendrite, Schwann cells, myelin sheath, nodes of Ranvier. [2]
3. Compare and contrast motor and sensory neurons in both form and function. [1]
4. Outline the stages of a reflex arc in neural transmission. [2]
5. What is resting potential and why is it important? [2]
6. Outline the process by which a sodium-ion pump functions. Include a diagram. (See p 271) [2]
7. What is an action potential and how does it work? Include the key steps in an action [3]
8. Answer SAQ 15.3 [3]
9. How do action potentials carry information? [2]
10. Explain the factors that influence nervous transmission rate (speed of conduction). [2]
11. What are receptor cells and what do they do? Describe the different kinds of receptor cells. [3]
12. Answer SAQ 15.4 [2]
13. What’s a synapse and how does it function? Explain the mechanism of synapse transmission. [3]
14. Describe the four functions of synapses in a mammalian body. [4]
15. Create a chart comparing and contrasting the three kinds of muscle. [3]
16. Describe the structure of striated muscle. [2]
17. Answer SAQ 15.7 [1]
18. Describe the process by which muscle cells contract including the names of all important proteins. [5]
19. How do active muscles provide enough ATP for movement? [1]
**Hormonal Communication**
20. Describe what hormones are and what purposes they serve in animals (especially mammals). [1]
21. Look at figure 15.31 on p350. Briefly outline the hormonal regulation of the human menstrual cycle. [2]
22. Answer SAQs 15.9-15.10 [2]
23. How does the birth-control pill work and how does this compare to the morning after pill? [2]
24. Outline how a Venus fly trap uses electrical impulses to capture insects. [3]
25. Complete the following chart on your own paper: [3]

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| --- | --- | --- | --- |
| **Hormone:** | **Description of Role:** | **Significance of role:** | **Location on plant where activated:** |
| **Auxins** |  |  |  |
| **Gibberellins** | Stem elongation: |  |  |
| **Gibberellins** | Seed germination: |  |  |
| **Abscisic Acid (ABA)** |  |  |  |

1. Answer SAQ 15.12. [3]