

Exam 2 October 30, 2006 Muscle/Nerve Name _____

Directions: Use grammatically correct sentences and well organized paragraphs to respond to the following statements or questions (unless otherwise noted). Confine your answers to the space provided.

1. Draw an action potential on a millivolt axis. Note the times of major ionic fluxes and major points/phases on your graph. On a second graph, below the first, draw the changes in membrane permeability that will help explain your first graph. (10,5)

2. Draw and label two adjacent sarcomeres. Draw a length-tension curve and briefly discuss the shape of the curve with respect to the sarcomere (5,5,5)

3. Choose 5 of the following and briefly identify in several sentences for each term.
(5x3=15)

Oxygen debt

Extensibility

Curare

Duchenne's Muscular Dystrophy

convergence in the NS

Neuroglia

Adenosine triphosphate and muscle contraction

Frequency Modulation

4. In order for a muscle to contract, it must receive adequate stimulation from a motor neuron. That motor neuron synapses with an excitatory neuron terminating in the spinal cord. The humanlike organisms inhabiting a small town on the planet of Halloweenica have been recently sickened by a bacterial toxin in the candy supply. The toxin alters peripheral calcium transport: it enhances calcium movement across cell membranes, but reduces transport across intracellular membranes. Why are the infected residents dieing? Use sentences in a step-by-step sequence to discuss axonal, synaptic, neuromuscular, and contractile events. (55)