

Homework Assignment – Module 5

1. [20 points] Choose the most correct statement AND briefly explain why each of the remaining statements are not correct.
 - A. Cardiac muscle cells do not have a t-tubular system.
 - B. The diameter of cardiac muscle cells is significantly smaller than the diameter of skeletal muscle cells.
 - C. With regard to the source(s) of Ca^{2+} for contraction, cardiac muscle is more like skeletal muscle than like smooth muscle.
 - D. Cardiac muscle receives its innervation from the somatic nervous system.

2. [20 points] Explain why each of the following statements is **incorrect** ...
 - A. Excitation/contraction coupling in cardiac muscle is similar to excitation/contraction coupling in skeletal muscle.
 - B. The t-tubular system in cardiac muscle plays a significant role in removing Ca^{2+} from the myofilament space.
 - C. Inositol triphosphate (IP_3) is the trigger for release of Ca^{2+} from myosin light chains in cardiac muscle.
 - D. Removal of Ca^{2+} from troponin in cardiac muscle requires the activation of myosin light chain phosphatase.