

Homework Assignment – Module 6

1. [20 points] Where on the EKG waveform would you expect to see an indication of atrial repolarization? Briefly explain.
2. [20 points] What would be the effect on the cardiac fast action potential of an increase (as compared to its normal value – see, e.g., video 3, slide 5) in g_{IK1} at values of membrane voltage between approximately -10 to +10 mV? Briefly explain
3. [20 points] Describe/discuss/explain the mechanism(s) that cause conduction velocity within the AV node to be lower than in other myocardial tissue.
4. [20 points] What would be the effect(s) on the cardiac pacemaker action potential of a partial blockage of the “funny” Na current? Briefly explain.
5. [20 points] What would be the effect of an increased conduction velocity through the AV node on the EKG waveform? Briefly explain.

Rev 1, 10/5/2015 – add clarifying text to question 2.

Rev 2, 2/29/2016 - clarify text of question 3.

Rev 3, 10/2/2017 - cosmetic changes only; no content changes

Rev 4, 7/17/18 - update to 601; no content changes