CHAPTER 17: Heart
BI 235 – Review Questions

1) What are the three major layers of the heart? What are the major layers of the pericardium? What is the function of each layer of the pericardium?

2) Compare and contrast pulmonary vs. systemic circuit.

3) What is the correct order of the heart valves that blood would pass through if one was to begin in the inferior vena cava and later return to this same point?

4) Describe the functional anatomy of atrioventricular valves and semilunar valves.

5) Describe the function anatomy of cardiac muscle. What are the major physiological differences between cardiac and skeletal muscle?

6) Describe how the generation of action potentials in the heart is able to prevent tetanus from occurring.

7) Diagram out the intrinsic conduction system of the heart and describe what occurs during each step.

8) Draw a normal EKG and properly label the waves present. What would you expect to observe during a heart block?

9) Explain the cardiac cycle beginning with mid-to-late diastole. What is represented by the “lub-dub” sounds heard by a doctor?

10) How do you calculate cardiac output? How do you calculate stroke volume?

11) What is meant by pre-load of the heart? What part of stroke volume does this effect?

12) What is meant by vagal tone with respect to heart regulation?

13) Compare and contrast tachycardia vs. bradycardia.

Applying Your Knowledge:

14) A man is brought into the emergency room of a hospital suffering from cardiac arrhythmias. In the emergency room he begins to exhibit tachycardia and as a result loses consciousness. Why?

15) A woman is taking a medication that blocks the calcium channels in cardiac muscle cells. What effect should this medication have on her stroke volume?