

## Unit Three Homework Assignment

### Chapter 19 - The Heart

#### Systole & Diastole

1. What signals the beginning of ventricular systole? What closes?
2. At the beginning of a new cycle, what is the status of the semilunar valves?
3. What do we call the phase when both the atrioventricular valve and semilunar valve are both closed?
4. What causes the semilunar valve to open?
5. What causes the semilunar valve to close? What phase does this signal?
6. If both the atrioventricular and semilunar valves are closed and the ventricle is relaxing then what is this phase called?
7. What will cause the atrioventricular valve to open?
- 8.. What causes most of the ventricular filling?
9. What occurs to complete ventricular filling?

#### Blood Flow Through the Heart

1. What two vascular systems receive blood pumped by the heart? Which one is smaller? Lower pressure?
2. What are the two largest veins in the body? Where do these vessels deliver blood to?
3. What is the name of the valve between the right atria and right ventricle?
4. What blood vessel moves blood into the lungs?
5. What vessels move blood back to the heart after passing through the lungs? Delivered to where? How has the blood been changed as it passes through the lungs?

#### Coronary Circulation of the Heart

1. What is the coronary circulation?
2. What are the coronary arteries?
3. What is meant by coronary dominance?
4. What role do cardiac veins play?
5. What is the pathway for the pulmonary circulation?
6. What is the pathway for the systemic circulation?
7. What is the pathway for the coronary circulation? Why do we need this?
8. What are the first two arterial branches off of the aorta?
9. Coronary arteries are "end arteries". What is the significance? If you block an end artery then what disease state occurs?
10. What is the second branch off of the RCA? What name do we use for our lab learning objective?
11. What blood vessel is formed by the RCA on the posterior surface of the heart? Two names?
12. How long is the left coronary artery?
13. What are the two branches of the left coronary artery? Two names for anterior branch?
14. What is the name for the LCA branch that carries blood to the left posterior region of the heart?
15. What three veins drain into the coronary sinus?
16. What region of the heart is drained by the great cardiac vein? Location?
17. Where will blood in the coronary sinus drain into?
18. What is the primary causes coronary arteries to dilate? Minor role?

## Cardiac Cycle

1. What is measured in one cycle? Between what two events?
2. What is the significance of the ECG? What is it measuring?
3. What is measured in the P wave? Significance? What occurs with the atrial pressure?
4. What do you think when you hear the word systole?
5. What happens to ventricular volume after atrial systole?
6. What occurs during the QRS phase? Why is it larger than the P wave?
7. What happens to ventricular pressure during ventricular systole?
8. What is isovolumic contraction? Where does this occur? When?
9. What is the status of the semilunar and atrioventricular valves?
10. What must you overcome in order to eject blood from the left ventricle?
11. What occurs during the T wave?
12. What happens in the ventricles during the T wave?
13. As ventricular diastole occurs, what will happen to the semilunar valves? At this point, what is the status of the atrioventricular valves? What is this brief period called?
14. What happens when ventricular pressure drops below atrial pressure? Significance?
15. What are the two heart sounds? Caused by?

## Cardiac Conduction System

1. Where do action potentials originate in the heart?
2. Why do action potentials travel slowly through the atrioventricular node?
3. How do action potentials travel to the apex of the heart?
4. How do the action potentials travel through the outer walls of the ventricles?