Heart Quiz

1. **What substance prevents friction when the heart contracts?**
   a. blood in the heart
   b. fluid outside the pericardium
   c. fluid in the pericardial cavity
   d. surfactant within in the myocardium

2. **Which of the following represents the correct pathway of blood moving from the superior vena cava to the lungs?**
   a. right atrium, tricuspid valve, right ventricle, pulmonary semilunar valve
   b. pulmonary semilunar valve, right atrium, tricuspid valve, right ventricle
   c. right atrium, bicuspid valve, right ventricle, pulmonary semilunar valve
   d. right atrium, pulmonary semilunar valve, right ventricle, tricuspid valve

3. **Which of the following does not supply the heart with nutrient- and oxygen-rich blood?**
   a. cardiac arteries
   b. coronary arteries
   c. inferior vena cava
   d. cardiac veins

4. **When the ventricles relax**
   a. ventricular pressure drops
   b. the semilunar valves are forced open
   c. the foramen ovale opens
   d. blood flows back into the atria from the ventricles

5. **During exercise, increased muscle contraction helps return more blood to the heart. This would lead to**
   a. increased stroke volume
   b. increased heart rate
   c. decreased heart rate
   d. decreased stroke volume
6. In a normal heart, the sinoatrial node
   a. is connected to the AV node by way of Purkinje fibers
   b. receives electrical impulses from the atrioventricular valve
   c. contains autorhythmic fibers that repeatedly generate action potentials
   d. transmits impulses directly to the ventricular myocardium

7. Which of the following occurs during that portion of the EKG designated as the P wave?
   a. high pressure in the aorta and pulmonary trunk open the A-V valves
   b. ventricular myocardium repolarizes
   c. high pressure in the ventricles opens the A-V valves
   d. atrial myocardium depolarizes

8. Release of norepinephrine from nerve fibers causes
   a. decreased heart rate but increased force of contraction
   b. increased heart rate but decreased force of contraction
   c. increased heart rate and force of contraction
   d. decreased heart rate and force of contraction

9. The heart wall
   a. has an inner layer called the epicardium, which is fused with the fibrous layer of the pericardium
   b. consists largely of a middle layer of muscular tissue called the myocardium which performs the pumping action of the heart
   c. includes the endocardium, or outermost layer, which is continuous with the serous pericardium
   d. is composed of five layers of voluntary muscle arranged in diagonal, swirling bands

10. Cardiac muscle tissue is characterized by all of these EXCEPT:
    a. numerous large mitochondria
    b. long, multinucleated, cylindrical cells
    c. striations
    d. intercalated discs

11. Tachycardia refers to
    a. slow heart rate
    b. low blood pressure
    c. rapid heart rate
    d. high blood pressure
12. The first heart sound is associated with
   a. pulmonary semilunar and tricuspid valves closing during ventricular diastole
   b. both semilunar valves closing during ventricular diastole
   c. aortic semilunar and bicuspid valves closing during ventricular systole
   d. both atrioventricular valves closing during ventricular systole

13. Blood enters the systemic circuit of blood flow by passing through the
   a. pulmonary valve
   b. aortic valve
   c. tricuspid valve
   d. semilunar valve

14. The Frank-Starling law of the heart states that
   a. the volume of blood that enters the heart during diastole directly affects the force of
      contraction at systole
   b. each period of systole must be followed by an equal period of diastole
   c. the presence of positive inotropic substances increases myocardial contractility
   d. a reduction in the body temperature results in lowered heart rate
1. c
2. a
3. b
4. a
5. a
6. c
7. d
8. c
9. b
10. b
11. c
12. d
13. b
14. a