Heart

Student: ________________________________

1. _______ carry blood away from the heart.
   A. Arteries
   B. Veins
   C. Capillaries

2. What is the leading cause of heart attack and stroke in North America?
   A. alcohol
   B. smoking
   C. arteriosclerosis
   D. hypertension

3. Blood returning to the heart from the lungs enters the ________, and blood is pumped from the heart to the lungs by the ________.
   A. left atrium; left ventricle
   B. left atrium; right ventricle
   C. right atrium; right ventricle
   D. right atrium; left ventricle

4. From which section of a capillary does water and small dissolved solutes move into the capillary?
   A. arterial end
   B. midsection
   C. venous end

5. What valve is found between the left atrium and left ventricle?
   A. pulmonary semilunar valve
   B. tricuspid valve
   C. bicuspid valve
   D. aortic semilunar valve

6. During the ventricular systole, the AV valves _______ and the semilunar valves _____.
   A. close; open
   B. close; close
   C. open; close
   D. open; open

7. An increase in the frequency of sympathetic impulses to arteries and arterioles, produces ________, which ________ blood pressure and velocity.
   A. vasoconstriction; increases
   B. vasoconstriction; decreases
   C. vasodilation; increases
   D. vasodilation; decreases

8. During atrial systole, the AV valves are _______ and the semilunar valves are _____.
   A. closed; open
   B. closed; closed
   C. open; closed
   D. open; open

9. The correct sequence in the conduction system of the heart is
   A. Purkinje fibers, AV bundle, bundle branches.
   B. AV node, SA node, Purkinje fibers.
   C. SA node, AV node, AV bundle, bundle branches, Purkinje fibers.
   D. AV node, bundle branches, SA node, Purkinje fibers.
10. Thick deposits of lipids on the walls of blood vessels, called __________, can lead to serious circulatory issues.
   A. aneurysm
   B. atherosclerosis
   C. hemorrhoids
   D. congestive heart failure

11. Constriction and dilation of smooth muscle in __________ is used to control blood pressure.
   A. capillaries
   B. venules
   C. arteries
   D. arterioles

12. The hepatic portal system is an unusual vein in that it is transporting ________________.
   A. oxygenated blood
   B. de-oxygenated blood
   C. high fat blood
   D. nutrient-rich blood

13. Blood pressure normally allows plasma substances to leak out of __________ so as to nourish body tissues.
   A. arteries
   B. arterioles
   C. capillaries
   D. venules

14. Heart rate regulation is primarily controlled by the cardiac control center located in the
   A. hypothalamus.
   B. cerebrum.
   C. medulla oblongata.
   D. pons.

15. In an ECG, the T wave represents
   A. depolarization of the atria.
   B. depolarization of the ventricles.
   C. repolarization of the atria.
   D. repolarization of the ventricles.

16. What vessels carry oxygen poor blood from the right ventricle to the lungs for gas exchange?
   A. pulmonary arteries
   B. pulmonary veins
   C. aorta and coronary arteries
   D. superior and inferior vena cava

17. What vein returns blood from the lower part of the body to the heart?
   A. inferior mesenteric vein
   B. hepatic portal vein
   C. brachiocephalic vein
   D. inferior vena cava

18. The left atrium
   A. receives oxygen rich blood from lungs.
   B. pumps oxygen rich blood toward the body tissues.
   C. receives oxygen poor blood from the body tissues.
   D. pumps oxygen poor blood to the lungs.
19. Small vessels that are involved in the control of blood pressure and distribution of blood are
A. capillaries.
B. venules.
C. arterioles.

20. The ________ valve prevents the backflow of blood from the left ventricle into the left atrium.
A. bicuspid atrioventricular
B. aortic semilunar
C. tricuspid atrioventricular
D. pulmonary semilunar

21. The cardiac output is dependent on
A. heart rate.
B. respiration rate.
C. stroke volume
D. Both heart rate and stroke volume are correct.

22. The p wave of an ECG represents
A. atrial depolarization.
B. atrial repolarization.
C. ventricular depolarization.
D. ventricular repolarization.

23. Cardiac output is equal to
A. heart rate × stroke volume.
B. heart rate / stroke volume.
C. stroke volume + heart rate.
D. stroke volume - heart rate

24. The visceral pericardium also forms the ________ of the heart wall.
A. epicardium
B. myocardium
C. endocardium

25. When is the second sound of the heartbeat produced?
A. beginning of atrial systole
B. beginning of atrial diastole
C. beginning of ventricular systole
D. beginning of ventricular diastole

26. The pulmonary veins are unusual as veins because they are transporting ________.
A. oxygenated blood
B. de-oxygenated blood
C. high fat blood
D. nutrient-rich blood

27. The hepatic portal vein goes from the
A. liver to vena cava.
B. abdominal organs to the liver.
C. kidney to vena cava.
D. intestine to kidney.

28. Parasympathetic stimulation of the heart causes the heart rate to
A. increase.
B. decrease.
C. stay the same.
D. increase, then decrease.
29. The membranous covering of the heart is the ________, which includes a loosely fitting sac composed of an inner ________ and an outer ________.
   A. epicardium; parietal pericardium; fibrous pericardium
   B. endocardium; parietal pericardium; epicardium
   C. epicardium; fibrous pericardium; parietal pericardium
   D. pericardium; parietal pericardium; fibrous pericardium

30. A precapillary sphincter muscle controls the flow of blood from
   A. capillary to venule.
   B. arteriole to capillary.
   C. artery to arteriole.
   D. capillary to arteriole.

31. What is the function of the heart valves?
   A. to push blood
   B. to prevent the backflow of blood
   C. to stimulate the heart
   D. to give support to the heart

32. ________ handle tissue exchange.
   A. Veins
   B. Arteries
   C. Capillaries

33. A heart rate above 100 beats per minute is called
   A. tachycardia.
   B. fibrillation.
   C. bradycardia.
   D. ectopic.

34. The first heart sound "lub" is made by
   A. closure of the AV valves.
   B. closure of the semilunar valves.
   C. contraction of the ventricles.
   D. contraction of the atria.

35. Why does the left ventricle have a thicker myocardial wall?
   A. It has to pump blood to the lungs.
   B. It has to pump blood to the body.
   C. It has to pump blood to the left atrium.
   D. It has to pump blood to the liver.

36. The cardioregulatory center is located in the
   A. cerebrum.
   B. cerebellum.
   C. medulla oblongata.
   D. pons.

37. As blood leaves the right atrium, it passes through the ________ valve to the right ventricle.
   A. tricuspid
   B. pulmonary semilunar
   C. mitral
   D. bicuspid

38. Systole refers to
   A. relaxation.
   B. contraction.
   C. stimulation.
39. An increase in blood pressure will cause reflex __________ of the heart rate.
   A. increase
   B. decrease
   C. no change
   D. increase, then decrease

40. Which chambers contract simultaneously?
   A. two atria
   B. right atrium and right ventricle
   C. all chambers contract simultaneously
   D. all chambers contract separately

41. Which pressure is greater on the arteriole side of a capillary?
   A. blood pressure
   B. osmotic pressure
   C. blood pressure and osmotic pressure are the same

42. In an ECG, the QRS complex represents
   A. depolarization of the atria.
   B. depolarization of the ventricles.
   C. repolarization of the atria.
   D. repolarization of the ventricles.

43. In an ECG, the P wave represents
   A. depolarization of the atria.
   B. depolarization of the ventricles.
   C. repolarization of the atria.
   D. repolarization of the ventricles.

44. The ______ acts to receive blood from all of the veins of the heart.
   A. coronary sinus
   B. great cardiac vein
   C. anterior interventricular vein
   D. posterior interventricular vein

45. Which of the following is NOT a vessel that empties into the right atrium?
   A. inferior vena cava
   B. superior vena cava
   C. coronary sinus
   D. pulmonary veins

46. The sound of a heart murmur is created from
   A. acid reflux in the esophagus.
   B. fluid in the lungs.
   C. leaky heart valves.
   D. a hiccups.

47. Heart attacks are most likely to be caused by blockage of which vessel?
   A. The aorta
   B. The pulmonary veins
   C. The coronary arteries
   D. The cardiac veins

48. A heart rate below 60 beats per minute is called
   A. tachycardia.
   B. fibrillation.
   C. bradycardia.
   D. ectopic.
49. Which chamber pumps the blood to the body through the systemic circuit?
   A. right atrium
   B. left atrium
   C. right ventricle
   D. left ventricle

50. The aortic semilunar valve prevents blood from flowing backwards into the
   A. right atrium.
   B. left atrium.
   C. right ventricle.
   D. left ventricle.

51. What vessels carry oxygen rich blood to the left atrium?
   A. superior and inferior vena cavae
   B. pulmonary veins
   C. pulmonary arteries
   D. Both superior and inferior vena cavae and pulmonary veins

52. Why is it important that blood move very slowly through the capillaries?
   A. to allow for molecular exchange between the blood and the tissues
   B. to allow for normal heart functioning
   C. blood moves very quickly through the capillaries

53. The QRS complex of an ECG represents
   A. atrial depolarization.
   B. atrial repolarization.
   C. ventricular depolarization.
   D. ventricular repolarization.

54. _______ have valves to prevent backflow.
   A. Veins
   B. Arteries
   C. Capillaries

55. The _______ rhythmically forms impulses initiating each heartbeat and transmits these impulses to the
    _______.
   A. A-V node; A-V bundle
   B. S-A node; A-V node
   C. A-V node; S-A node
   D. S-A node; A-V bundle

56. What initiates the heartbeat and is called the pacemaker?
   A. nerves
   B. AV node
   C. SA node
   D. brain

57. The _______ atroventricular valve is located on the right side of the heart, while the _______ valve is on the left.
   A. bicuspid; tricuspid
   B. bicuspid; mitral
   C. mitral; bicuspid
   D. tricuspid; bicuspid

58. Which are the strongest pumping chambers?
   A. atria
   B. ventricles
59. Blood pressure is lowest in the
   A. aorta.
   B. capillaries.
   C. superior and inferior vena cavas.
   D. venules.

60. _______ carry blood to the heart.
   A. Veins
   B. Arteries
   C. Capillaries

61. At any given time, more than half the total blood volume is found in
   A. capillaries.
   B. arteries and arterioles.
   C. venules and veins.
   D. arterioles and venules.

62. When is the first sound of the heartbeat produced?
   A. beginning of atrial systole
   B. beginning of atrial diastole
   C. beginning of ventricular systole
   D. beginning of ventricular diastole

63. The _______ act to receive blood from veins, while the _______ pump blood away from the heart.
   A. ventricles; capillaries
   B. ventricles; atria
   C. atria; ventricles
   D. atria; capillaries

64. The right atrium
   A. receives oxygen rich blood from lungs.
   B. pumps oxygen rich blood toward the body tissues.
   C. receives oxygen poor blood from the body tissues.
   D. pumps oxygen poor blood to the lungs.

65. The amount of blood pumped out of a ventricle in one minute is the
   A. stroke volume.
   B. heart rate.
   C. cardiac output.
   D. cardiac cycle.

66. The pathway from the lungs, through the left side of the heart and out the aorta to the body tissues is called the
   A. pulmonary circuit.
   B. coronary circulation.
   C. systemic circuit.
   D. hepatic-portal system.

67. If excessive fluid retention increases blood volume, blood pressure is likely to
   A. decrease.
   B. be unaffected.
   C. increase.
   D. alter the heart rate.
68. Which of the following states do not normally occur in the heart?
   A. atrial systole and ventricular systole together.
   B. atrial systole and ventricular diastole together.
   C. atrial diastole and ventricular diastole together.
   D. atrial diastole and ventricular systole together.

69. The pulmonary vein
   A. carries oxygen rich blood from lungs to the left atrium.
   B. carries oxygen rich blood toward the body tissues.
   C. receives oxygen poor blood from the body tissues.
   D. carries oxygen poor blood to the lungs.

70. An area other than the SA node can become the pacemaker. This area is called a(an)
   A. heart block.
   B. intrinsic conduction system.
   C. ec
   D. interventricular septum.

71. The heart sounds are due to the
   A. valves closing.
   B. heart contraction.
   C. heart relaxing.
   D. blood flowing.

72. Sympathetic stimulation of the heart causes the heart rate to
   A. increase.
   B. decrease.
   C. stay the same.
   D. increase, then decrease.

73. The _______ acts to slow action potentials, while the _______ transmits these signals very quickly.
   A. A-V node; A-V bundle
   B. S-A node; A-V bundle
   C. A-V bundle; Purkinje fibers
   D. A-V node; Purkinje fibers

74. Diastole refers to
   A. relaxation.
   B. contraction.
   C. stimulation.

75. Constriction of the smooth muscles of an arteriole will _______ blood pressure and _______ blood flow
    into an area.
   A. increase; increase
   B. increase; decrease
   C. decrease; increase
   D. decrease; decrease

76. The _________ is referred to as the pacemaker of the heart.
   A. A-V node
   B. S-A node
   C. Purkinje fibers
   D. A-V bundle
77. What type of receptors, found in the aorta and common carotids arteries, send information to the cardioregulatory center to control heart rate?
   A. proprioceptors
   B. nociceptors
   C. baroreceptors
   D. photoreceptors

78. During ________, the atrioventricular valves are closed and the semilunar valves are open.
   A. atrial systole
   B. ventricular diastole
   C. ventricular systole
   D. atrial and ventricular diastole

79. Which of the following vessels would have a high oxygen content?
   A. aorta
   B. pulmonary veins
   C. pulmonary arteries
   D. Both the aorta and pulmonary veins.

80. The second heart sound "dup" is caused by the
   A. closing of the AV valves.
   B. closing of the mitral valve.
   C. closing of the semilunar valves.
   D. contraction of the ventricles.

81. If blood pressure increases above normal, the response from the medulla oblongata will be to
   A. increase heart rate and dilate the arterioles.
   B. increase heart rate and constrict the arterioles.
   C. decrease heart rate and dilate the arterioles.
   D. decrease heart rate and constrict the arterioles.

82. The tissue layer found in major blood vessels and the heart is the ____________.
   A. smooth muscle layer
   B. endothelial layer
   C. tunica externa
   D. parietal pericardium

83. As the total cross-sectional area of the vessels increases, the velocity of blood flow
   A. increases.
   B. decreases.
   C. does not change.

84. A systolic pressure consistently above 140 or a diastolic pressure above 90 is called
   A. hypertension.
   B. fibrillation.
   C. hypotension.
   D. tachycardia.

85. The pathway from the superior and inferior vena cavaS, through the right side of the heart to the lungs is called the
   A. pulmonary circuit.
   B. coronary circulation.
   C. systemic circuit.
   D. hepatic-portal system.
86. Which of the following does NOT affect the stroke volume of the heart?
   A. oxygen concentration of the blood
   B. strength of contraction of the ventricles
   C. blood electrolyte concentration
   D. venous return to the right atrium

87. What accounts for blood flow in the arteries?
   A. blood pressure
   B. skeletal muscle contraction
   C. blood pressure and skeletal muscle contraction

88. In which type of vessel is blood velocity the greatest?
   A. capillaries
   B. arterioles
   C. veins
   D. arteries

89. What structures control blood flow into capillary beds?
   A. adhesion junctions
   B. precapillary sphincters
   C. arteriovenous shunt
   D. semilunar valve

90. Which pressure is greater on the venous end of a capillary?
   A. blood pressure
   B. osmotic pressure
   C. blood pressure and osmotic pressure are the same

91. Which type of vessel consists of one layer of endothelial cells?
   A. arteries
   B. veins
   C. capillaries

92. Osmotic pressure is created from
   A. the pumping of the heart.
   B. movement of substances from an area of higher concentration to an area of lower concentration.
   C. a difference in solute concentration on either side of a semipermeable membrane.
   D. blood volume.

93. Which type of vessel have very thick, muscular walls?
   A. veins
   B. arteries
   C. arterioles
   D. capillaries

94. How is the heart muscle nourished?
   A. by blood in the left ventricle
   B. by the coronary arteries
   C. by the cardiac vein
   D. by the carotid artery

95. The ________ pumps blood into the aorta, and the ________ receives blood from the vena cavae.
   A. right ventricle; right atrium
   B. right ventricle; left atrium
   C. left ventricle; left atrium
   D. left ventricle; right atrium
96. The aorta
   A. receives oxygen rich blood from lungs.
   B. carries oxygen rich blood toward the body tissues.
   C. receives oxygen poor blood from the body tissues.
   D. carries oxygen poor blood to the lungs.

97. The heart rate is increased by impulses from ________ neurons and decreased by impulses from ________ neurons.
   A. sympathetic; parasympathetic
   B. parasympathetic; sympathetic
   C. afferent; efferent
   D. motor; sensory

98. Which of the following represents the correct sequence when tracing the path of blood from the superior or inferior vena cava to the lungs?
   A. left atrium, pulmonary semilunar valve, left ventricle, mitral valve, pulmonary arteries
   B. right atrium, tricuspid valve, right ventricle, pulmonary semilunar valve, pulmonary arteries
   C. tricuspid valve, right atrium, aortic semilunar valve, right ventricle, pulmonary veins
   D. pulmonary semilunar valve, right atrium, mitral valve, right ventricle, pulmonary veins

99. An abnormal heartbeat that has a rate exceeding 100 beats per minute is _____________.
   A. bradycardia
   B. tachycardia
   C. atrial fibrillation
   D. ventricular fibrillation

100. Vasoconstriction in blood vessels is controlled by the vasomotor center in the
    A. pons.
    B. cerebellum.
    C. hypothalamus.
    D. medulla oblongata.