

## Chapter 13 and 14 Study guide

1. The exchange of gases and nutrients between the blood and the tissues occur in blood vessels called \_\_\_\_\_.
2. A normal hematocrit value of 45 means that \_\_\_\_\_.
3. A person whose blood genotype is I<sup>A</sup>i has red blood cells with \_\_\_\_\_ antigens bound to the outer membrane surface and anti-\_\_\_\_\_ antibodies floating in the plasma.
4. Action potentials in myocardial cells have a characteristic plateau phase, which is caused primarily by the \_\_\_\_\_.
5. Aplastic anemia results in an abnormally low red blood cell count due to \_\_\_\_\_.
6. At rest the heart of an average human will pump \_\_\_\_\_ liters of blood per minute.
7. At rest, each complete cardiac cycle lasts about 0.8 seconds, of which diastole lasts \_\_\_\_\_ seconds and systole lasts \_\_\_\_\_ seconds.
8. Blood clotting would not occur if the plasma was deficient in \_\_\_\_\_.
9. Erythrocytes lack both a \_\_\_\_\_ and \_\_\_\_\_.
10. In a normal ECG tracing, the repolarization of the atria is hidden by the \_\_\_\_\_.
11. In the ABO system of red blood cell typing, which of the following genotypes would produce type O blood?
12. Lymph contains all of the following substances except \_\_\_\_\_ and \_\_\_\_\_.
13. Normal venous return relies upon all of the following except \_\_\_\_\_.
14. Pacemakers may be useful in treating a \_\_\_\_\_.
15. Platelets release a chemical called \_\_\_\_\_ that \_\_\_\_\_.
16. The "buffy coat" that forms when whole blood is centrifuged in a test tube, is composed of \_\_\_\_\_ and \_\_\_\_\_.
17. The atrioventricular (AV) valve is called the \_\_\_\_\_, separates the \_\_\_\_\_ and \_\_\_\_\_, and is also called the \_\_\_\_\_.
18. The endothelial cells of the blood vessel produce two important chemicals involved in hemostasis; prostacyclin and \_\_\_\_\_.
19. The lymph eventually enters the circulation by draining into two specific \_\_\_\_\_.
20. The most important ion involved in the blood clotting sequences is \_\_\_\_\_.
21. The presence of \_\_\_\_\_ in the circulatory system would be considered abnormal.
22. The SA node is the normal pacemaker of the heart because the SA node \_\_\_\_\_ to its threshold potential \_\_\_\_\_ other pacemakers in the heart.
23. The second heart sound results from vibrations generated by the \_\_\_\_\_ at the start of \_\_\_\_\_.
24. The semilunar valves \_\_\_\_\_ the \_\_\_\_\_ from the ventricles into the pulmonary artery and the aorta.
25. The terms "systole" and "diastole" refer, respectively, to the \_\_\_\_\_ and \_\_\_\_\_ of the ventricles.
26. Lymphocytes do not belong to the class of granular leukocytes. *True or false?*
27. The first to occur during the process of hemostasis after a blood vessel becomes injured is that the endothelial lining is damaged, exposing collagen proteins to the blood. *True or false?*

28. Neurochemical release is not a broad area of function within the circulatory system. *True or false?*
29. Which of the leukocytes usually accounts for less than 1% of white blood cells present?
30. Veins can collapse, serving as the blood vessel with the greatest resistance to blood flow in the circulatory system. *True or false?*
31. In erythroblastosis fetalis (hemolytic disease of the newborn), the baby is born with an abnormally high number of red blood cells (anemia). *True or false?*
32. Within the pulmonary circulation, the \_\_\_\_\_ carry oxygen-poor blood.
33. 0.12 to 0.20 second is the duration of the \_\_\_\_\_ in a normal heart.
34. \_\_\_\_\_ AV node block occurs when the rate of impulse conduction through the AV node exceeds 0.20 seconds.
35. \_\_\_\_\_ AV node block occurs when no atrial waves can pass through the AV node.
36. \_\_\_\_\_ development would be inhibited if the actions of granulocyte colony stimulating factor were blocked.
37. \_\_\_\_\_ binds and inactivates the sodium-potassium ATPase pumps of myocardial cell leading to increased intracellular calcium concentrations and stronger myocardial contractions.
38. A continual recycling of electrical waves through the myocardium is called \_\_\_\_\_
39. A normal hematocrit for women would be \_\_\_\_\_
40. A normal red blood cell count is in the range of \_\_\_\_\_ /mm<sup>3</sup>.
41. A(n) \_\_\_\_\_ is a device that is implanted into a pectoral subcutaneous pocket that delivers shocks to the heart when ventricular fibrillation is detected.
42. All blood vessels are lined with \_\_\_\_\_
43. Aspirin inhibits blood clotting by directly preventing \_\_\_\_\_
44. Based on differences in their endothelial lining, capillaries can be classified as all of the following EXCEPT \_\_\_\_\_
45. Bipolar limb lead three uses the \_\_\_\_\_ and \_\_\_\_\_
46. Blood globulins include which of the following types?  
A. alpha globulins  
B. beta globulins  
C. gamma globulins  
D. All of the choices are correct.
47. Both the intrinsic and extrinsic clotting pathways activate factors that convert \_\_\_\_\_ to \_\_\_\_\_
48. Cardiac \_\_\_\_\_ channels are called hyperpolarization cyclic nucleotide (HCN) channels because they open in response to hyperpolarization.

49. Damage to the AV node could cause \_\_\_\_\_
50. Damage to tissues stimulates the activation of the \_\_\_\_\_ blood clotting pathway
51. Dark red colored blood would be found in \_\_\_\_\_
52. Decreased liver protein synthesis would cause the amount of \_\_\_\_\_ and \_\_\_\_\_ in the blood to be decreased
53. Diets promoting cardiovascular health contain no more than \_\_\_\_\_ of total calories as fat.
54. During isovolumetric ventricular contraction, ventricular pressure is *increasing / decreasing*
55. During isovolumetric ventricular relaxation, atrial pressure is *more / less* than ventricular pressure
56. Endogenously applied \_\_\_\_\_, or tissue plasminogen activator (TPA) can induce blood clot dissolution.
57. Erythroblastosis fetalis occurs when the mother has \_\_\_\_\_ and the fetus has \_\_\_\_\_
58. Failure of the SA node to depolarize would result in an ECG \_\_\_\_\_
59. Fenestrated capillaries are found in the \_\_\_\_\_.
60. Functions of the lymphatic system include transport of absorbed peptides. *True or false?*
61. Granular leukocytes are derived from \_\_\_\_\_.
62. Having no nucleus, a biconcave shape, and the function of gas transport would describe a \_\_\_\_\_
63. Heart murmurs may be caused by \_\_\_\_\_, a condition in which valves are thickened and calcified.
64. Hemophilia is a/an \_\_\_\_\_ trait.
65. Hepcidin's function in iron homeostasis is that it promotes \_\_\_\_\_ by removing \_\_\_\_\_ in \_\_\_\_\_.
66. How does the circulatory system provide protection for the body?  
A. prevents blood loss through clotting  
B. leukocytes fight infection  
C. provides the body's immunity  
D. All of the choices are correct
67. How much blood does the average-sized adult have? \_\_\_\_\_
68. In a complete AV node block,  
A. no signals pass into the ventricles.  
B. the atria will be paced by the SA node.  
C. the ventricles contract due to the Purkinje fiber pacemaker.  
D. All of the choices are correct.
69. In the fetus, blood can flow from the right atrium to the left atrium through the \_\_\_\_\_
70. Inhibiting gastric function would stimulate \_\_\_\_\_
71. Iron is transported in the blood by the protein \_\_\_\_\_.
72. Ischemic heart disease causes \_\_\_\_\_ on the ECG.