

A & P 2 - Unit 5 Review

Mary Stangler Center for Academic Success

This review is meant to highlight basic concepts from Unit 5. It does not cover all concepts presented by your instructor. Refer back to your notes, unit objectives, labs, handouts, etc. to further prepare for your exam.

1. Components of Whole Blood - describe the main function of each component.
 - a. Plasma -
 - b. Formed Elements
 - i. Erythrocytes – red blood cells (RBCs) –
 - ii. Leukocytes – white blood cells (WBCs) –
 - iii. Platelets – cell fragments –
2. Hemopoiesis – what is it? Where does it occur?
3. Whole Blood Measurements – describe each.
 - a. Hematocrit (Packed Cell Volume) -
 - b. RBC Count -
 - c. Hgb Concentration –
4. Blood Antigens & Antibodies – define each as they relate to the blood cell and plasma.
 - a. Antigens –
 - b. Antibodies -.
5. ABO Blood Types – give the type of antigen and antibodies for each blood type. Who can each donate to and receive from?

<i>Blood type</i>	<i>Antigen</i>	<i>Antibody</i>	<i>Can donate to</i>	<i>Can receive from</i>	<i>Rh+</i>	<i>Rh-</i>
<i>Type A</i>						
<i>Type B</i>						
<i>Type AB</i>						
<i>Type O</i>						

6. Hemostasis - Cessation of bleeding - briefly describe what happens during each phase:
 - a. Vascular Spasm –
 - b. Platelet Plug Formation -
 - c. Coagulation (clotting) –
7. Route of Blood Flow: describe the direction of blood flow for each vessel type. Which areas under high pressure?
 - a. Arteries –
 - b. Arterioles –
 - c. Capillaries –
 - d. Venules –
 - e. Veins –
8. Anatomy of Blood Vessels – name the 3 layers of a vessel.
Tunica interna (tunica intima) -

9. Blood Flow Through Heart – starting at the vena cava and ending at the aorta, explain how blood flows through the heart.
10. Cardiac Electrical Conduction System –starting with the SA node and ending with ventricular contraction, explain the electrical conduction system of the heart.
11. Explain what makes heart sounds (lub, dup) and what is happening when someone has a heart murmur.
12. Cardiac Muscle – Specializations
 - a. What are Intercalated Discs?
 - b. Why Does the Heart NOT Fatigue?
13. Electrocardiogram (ECG or EKG) – briefly describe the electrical activity of the heart.

Fill in the Blank

14. The _____ is where deoxygenated blood enters the heart from the inferior and superior vena cava.
15. The pale yellow fluid matrix of blood is called _____.
16. The _____ fibers spread the electrical signal throughout the ventricles and signal them to contract.
17. RBC production is called _____ and is stimulated by the hormone_____.
18. The middle (smooth muscle) layer of a blood vessel is called the _____.
19. An _____ may be caused by the weakening of a blood vessel.
20. WBC production is called _____.
21. The ____ node is located in the right atrium, near base of the superior vena cava.
22. The tricuspid valve between the right atrium and right ventricle is the _____.

23. The proteins found on the surface of RBCs which distinguish “self” cells from “foreign” cells are called _____.
24. The valve between the right ventricle and the pulmonary circuit is the _____.
25. A cerebral vascular accident is also called a _____.
26. _____ is an abnormally fast heart rate.
27. The _____ is where deoxygenated blood goes after leaving the right atria
28. The inner most (endothelial) layer of a blood vessel is called the _____.
29. WBC production is stimulated by the hormone _____.
30. The _____ is the place where oxygenated blood goes after leaving the left atrium.
31. _____ capillaries don't have pores, but glucose and O₂ can diffuse through them.
32. Chronically high blood pressure (140/90) is a symptom of the disease of _____.
33. The _____ is where oxygenated blood re-enters the heart after the pulmonary circuit.
34. Low levels of RBCs or hemoglobin is called _____.
35. _____ are connections that pass electrical/mechanical stimuli between cardiac cells.
36. The valve oxygenated blood goes through before entering the left ventricle is the _____.
37. The term for the production of blood's formed element is _____.
38. The last stop for blood inside the heart, before it gets pumped to the body is the _____.
39. All of the formed elements of blood come from an undifferentiated stem cell called a _____.
40. The globin proteins of old RBCs are broken into _____.
41. The valve blood goes through before entering the aorta is called the _____.
42. _____ receptors in aortic arch and medulla oblongata inform the cardiac center about the pH levels in the blood.
43. Venous blood flows away from the _____ toward the _____.
44. _____ blood pressure is the force of ventricle contraction
45. The production of WBCs, RBCs, and platelet occurs in the _____.
46. _____ is an abnormally slow heart rate.
47. The blood vessels that carry O₂ rich blood from the lungs to the heart are called _____.
48. The _____ vena cava drains the systemic blood above the diaphragm, and the _____ vena cava drains the systemic blood below the diaphragm.
49. The _____ carry deoxygenated (CO₂ rich) blood from the heart to the lungs.
50. _____ is the method of capillary exchange in fenestrated and discontinuous capillaries.
51. Artery (O₂ rich) blood flows away from the _____ toward the _____.
52. Platelet production is called _____, and the hormone that stimulates platelet production is called _____.
53. During RBC recycling heme is converted into a green substance called _____.
54. This green substance is then converted into _____ (a yellow substance) which is then released into the blood plasma.
55. This yellow substance is then filtered out by the _____, eventually becoming the yellow color in urine.
56. The _____ also removes this yellow substance from the blood plasma, and mixes it with bile to be stored in the gallbladder.
57. An excess of platelets is called _____, and a very low platelet count is called _____.
58. Veins have _____ to prevent backflow.
59. _____ is the heart sound made when blood is pushing back against the semilunar valves after ventricular contraction.
60. The _____ receives signal from the SA node and sends it to the bundles of His.

61. An excess of RBCs is called _____.
62. Low blood O₂, as evidenced by a low number of RBCs is called _____.
63. _____ blood pressure is caused when the ventricles are refilling
64. _____ is the heart sound made when blood is pushing back against the AV valves.
65. The term for the cessation of bleeding is _____ and the three stages of this process are _____, _____, and _____.
66. The three types of granulocytes are _____, _____, _____.
67. _____ is an abnormal cardiac rhythm.
68. Red blood cells (RBCs) are also called _____.
69. _____ veins are caused by the pooling of blood in the veins of the lower legs.
70. Blood pressure is measured using the _____ artery.
71. _____ capillaries have small pores for the transport of H₂O and other small solutes.
72. Abnormal clotting in an undamaged blood vessel is called _____.
73. The _____ pathway of coagulation is quicker, but makes less fibrin; while the _____ pathway is slower, but makes much more fibrin.
74. The amount of hemoglobin in whole blood is the _____ concentration.
75. The percentage of RBCs in whole blood is the _____ percentage.
76. White blood cells are also called _____.
77. The Fe²⁺ of the heme is removed and stored in the _____.
78. Old RBCs are filtered out by the _____.
79. _____ is the method of capillary exchange in continuous capillaries.
80. The clotting disorder _____ is caused by a lack of a clotting factor which leads to an inability to form blood clots.
81. _____ are varicose veins of the anus.
82. The number of RBCs in whole blood is called the _____.
83. The outer most (connective tissue) layer of a blood vessel is called the _____.