

Name _____

Blood

1. All of the following are characteristics of blood EXCEPT
 - A. slightly alkaline (basic) pH.
 - B. temperature slightly above the normal range for body temperature.
 - C. slightly more viscous than water.
 - D. pH slightly above the normal physiological pH.

2. All of the following are true of neutrophils EXCEPT that they are
 - A. granular leukocytes.
 - B. phagocytic.
 - C. important in coagulation.
 - D. active in fighting bacterial infections.

3. After drinking a gallon of water in 1 hour, a person might have
 - A. an increased hematocrit.
 - B. a decreased hematocrit.
 - C. anemia.
 - D. a release of erythropoietin.

4. _____ involves a complex sequence of steps leading to the conversion of fibrinogen to fibrin.
 - A. Vascular spasm
 - B. The platelet phase
 - C. Coagulation
 - D. Retraction

5. Which of the following situations would probably NOT result in anemia?
 - A. hemorrhage
 - B. liver disease
 - C. lack of vitamin B₁₂ in the diet
 - D. disease of the red bone marrow
 - E. dietary deficiency of iron

6. Which of the following concerning whole blood is TRUE?
 - A. Approximately 2.5 liters of the whole blood in a person's body is plasma.
 - B. Almost all of the 5 liters of whole blood in a person's body is water.
 - C. Almost all of the 5 liters of whole blood in a person's body is red blood cells.
 - D. On average, a person has 10 liters of whole blood in his/her body.

Use the following information to answer Questions 7-8 below:

Bill wants to know what his blood type is, so the doctor takes his blood (mainly RBCs) and mixes it with plasma samples from Type A blood, Type B blood, Type AB blood, and Type O blood. The following results were recorded:

| Type A Plasma | Type B Plasma | Type O Plasma | Type AB Plasma |
|------------------|---------------|---------------|------------------|
| No agglutination | Agglutination | Agglutination | No agglutination |

7. What is Bill's blood type?
A. Type A B. Type B C. Type AB D. Type O

8. If Bill needed a transfusion (donation of blood) from another person, what blood type would Bill be able to receive?
A. Type A and Type AB
B. Type B and Type AB
C. Type A and Type O
D. Type B and Type O
E. Type A only

9. Which of the following is a function of the blood?
A. Produce waste products.
B. Increase bleeding at an injury to cleanse it of bacteria.
C. Transport antibodies to invading organisms or foreign compounds.
D. Generate heat.

10. Hemoglobin
A. can carry up to four oxygen molecules per hemoglobin molecule.
B. is the percentage of RBCs compared to the whole blood.
C. consists of two polypeptide chains.
D. will decrease with dehydration.

11. A person with a clotting time of 12 minutes
A. has normal control of the clotting process.
B. has some interference with the clotting process, causing a longer than usual clotting time.
C. probably produces too many anticoagulants and/or heparin, causing a shorter than usual clotting time.
D. is at high risk for an embolus.

12. A drifting blood clot is called a(n)
A. embolus.
B. thrombus.
C. plaque.
D. platelet plug.

Heart

13. During the isovolumetric phase of ventricular diastole, the
- A. atria and the ventricles are relaxing.
 - B. atrioventricular valves and the semilunar valves are closed.
 - C. atrioventricular valves and the semilunar valves are open.
 - D. blood is moving from the atria into the ventricles.
14. As the QRS complex is finishing,
- A. ventricular systole is beginning.
 - B. ventricular diastole is beginning.
 - C. atrial systole is beginning.
 - D. ventricular systole is ending.
15. To treat coronary artery disease,
- A. diet changes and low impact exercise should be implemented.
 - B. the person should stop smoking.
 - C. angioplasty may be performed when angina pectoris occurs.
 - D. coronary artery bypass surgery can detour blood around the occluded artery if other treatments fail.
 - E. All of the above are ways to treat CAD.
16. After getting oxygenated while traveling through the pulmonary capillaries, blood will enter the
- A. pulmonary artery.
 - B. pulmonary vein.
 - C. right atrium.
 - D. right ventricle.
17. Blood traveling through the superior vena cava
- A. will next enter the left atrium.
 - B. needs to travel through the pulmonary arteries to get oxygenated.
 - C. will pass through the bicuspid valve before the tricuspid valve.
 - D. is returning from perfusing the legs.
 - E. All of the above are correct.
18. Which of the following is GREATER?
- A. The number of action potentials per minute spontaneously generated by the SA node.
 - B. The number of action potentials per minute spontaneously generated by the AV node.
19. If a myocardial infarction results in the formation of scar tissue along the pathway of one of the internodal pathways,
- A. the P-R interval will probably be longer.
 - B. the QRS complex will be larger.
 - C. the T wave will disappear.
 - D. the heart rate will increase significantly.

20. The epicardium
- is also called the parietal pericardium.
 - lines the inside of the heart chambers.
 - is responsible for the contracting of the heart.
 - is one of the layers of the serous membrane covering the heart.
21. In order for ventricular filling to occur,
- pressure in the atria has to be less than pressure in the ventricles.
 - the ventricles have to be contracting.
 - ventricular systole has to begin.
 - pressure in the ventricles has to be less than the pressure in the atria.
22. Automaticity is typically determined by
- | | |
|--------------------------------|------------------------|
| A. the central nervous system. | C. the SA nodal cells. |
| B. the ventricular myocytes. | D. the AV nodal cells. |
23. Immediately after S_1 ,
- isovolumetric contraction will occur.
 - isovolumetric relaxation will occur.
 - rapid ejection of blood will occur.
 - ventricular filling will occur.
24. Abnormally slow conduction through the ventricles would change the shape of the _____ in an ECG tracing.
- | | | | |
|-----------|-----------|----------------|-----------|
| A. P wave | B. T wave | C. QRS complex | D. U wave |
|-----------|-----------|----------------|-----------|
25. Heart valves open and close based on
- the action of the chordae tendinae.
 - pressure gradients on either side of the valves.
 - central nervous system control.
 - where the blood is moving to.
26. When a plaque forms on a coronary vessel and partially blocks blood flow to the muscles,
- angina pectoris will result with increased stress.
 - a myocardial infarction will occur immediately.
 - a pulmonary embolism will occur.
 - coronary bypass surgery needs to be performed immediately.
27. Extra Credit: If protein synthesis is interfered with, new red blood cells will be changed. Which of the following is due to reduced protein synthesis?
- RBCs will no longer be able to bend and flex when squeezing through small capillaries.
 - The RBCs formed would carry larger amounts of carbon dioxide.
 - The RBCs formed would not be able to carry as much oxygen.
 - The cells would be round instead of biconcave.