1. Describe hemostasis: it is the ability to keep up internal stability in an organism for environmental changes.

2. Describe the appearance, composition, and functions of the following components of blood: plasma, platelets, white blood cells, red blood cells (erythrocytes), dissolved gases, ions, plasma proteins:
Blood is relatively a connective tissue that has a fluid like texture, dark Red colored mostly, blood also supplies oxygen to cells and tissues, such as nutrients like amino acids and glucose. Removes waste like
Carbon dioxide. Plasma is similar to color of a yellow it carries salts and enzymes , hormones. Carries waste as well. Platelets prevent further bleeding during injury. They are usually round oval very small. Red blood cells oval shape carry oxygen from lungs to body tissues. Ions enable the flow of electrical signals through the body. Regulate the Osmotic pressure in cells.

3 . Community of tissues and organs that help the body eliminate toxins
4. They are sent into mode of circulating in the body then they are eliminated by macrophages and then whats left over gets recycled.
5. Antigens may be bacteria that can possibly cause a disease. What is the antigen in each of the following: flu ; hemagglutinin and neuraminidase. organ transplant: leukocyte antigen, blood transfusion rejection ABO blood type.
6. Summarize the different types of white blood cells mentioned in your textbook and describe each of their functions. : •Monocytes helps break down bacteria.
•Lymphocytes design antibodies to fight off viruses and bacteria.
•Neutrophils kill and digest bacteria.

7. Function of lymphatic system is to eliminate waste and it transports lymph which consists of white blood cells that fight bacteria and infections that can possibly hit the human body. The circulatory system are apart of the immune defense system. Describe the role of the spleen, thymus, and lymph nodes. The spleen recycles old red blood cells and fights bacteria that causes serious sicknesses. Thymus fights off foreign cells invading the body. Lymph nodes filter substances as well that are in the body.
8 . Contains digestive enzymes and could possibly break down viruses.
9. List the three major lines of defense of the immune system.
Skin surface, dendritic cells and macrophages and thirdly macrophages.
10. Describe typical external barriers of the human body that prevent to invading organisms.
lymphatic system is to eliminate waste and it transports lymph which consists of white blood cells that fight bacteria and infections that can possibly hit the human body. lymphatic system? Community of tissues and organs that help the body eliminate toxins as well as the circulatory system.
11. What is the purpose of the complement system?
Complement system; eliminates pathogens and fractured cells, inflammation causes pathogens membrane to be attacked. Of fever? Defend the notion that fevers can be beneficial. Defend the notion that fevers can be harmful. Fever can help a body fight infection. Fevers can be harmful because of the amount of temperature your body is raised to.

12. Compare and contrast effector cells and memory cells.

They can produce cytokines into memory cells. They travel to destination and produce chemokines. After infection it develops into memory cells.

13. Compare and contrast B-cells and T-cells. Compare and contrast cytotoxic T cells and helper T cells.
14. The cell-mediated immunity is helped by the activated TH cells and Cytotoxic T Lymphocytes. Cytokines that are secreted by the TH cells activate the phagocytic cells. These activated phagocytic cells kill the microbes. The Humoral immunity is assisted through antibodies. Antibodies are produced by the B cells. These antibodies then bind to specific microbial antigens.

15. Cytokines are a large group of proteins, peptides or glycoproteins. They are secreted by specific cells within the immune system. Cytokines are a category of signaling molecules that regulate immunity, inflammation and hematopoiesis.

16. The difference between active immunity and passive immunity is that active immunity is being produced for the contact with pathogen or the antigen. On the other hand, passive immunity is being produced for the antibodies that are collected from outside

17. ABO blood type is a classification based on inherited properties determined by the presence of antigens A and B. Type A blood means that the A antigen is present on their RBC’s. Type B means the presence of B antigens. Type AB means that both A and B antigens are located on the RBC’s. Type O is a universal blood type. It is also the universal donor. Type AB is the universal recipient. Anyone can donate O-blood, as it has A and B antigens in its plasma. AB type is universal because it can welcome antigens A and B.

18. The Rh blood group is classified according to the presence or absence of a second erythrocyte antigen identified as Rh. Rh+ means there is the presence of erythrocytes. Rh- means there is a lack of erythrocytes.

19. Innate immunity also recognizes changes in our cells caused by infection. Adaptative immunity somatically provides large groups of receptors which recognize any nonself antigen. These receptors are randomly generated. When a person receives an organ from someone else during transplant surgery, that person's immune system may recognize that it is foreign. This sometimes happens because the person's immune system detects that the antigens on the cells of the organ are different.

20.Immunotherapy is a type of cancer treatment that helps one fight cancer cells.

21. The virus attacks and destroys the infection-fighting CD4 cells of the immune system. During the acute HIV infection stage, the level of HIV in the blood is very high. This increases the risk of HIV transmission. A person may experience significant health benefits if they start ART during this stage. The main treatment for HIV is antiretroviral therapy. This is a combination of daily medications that stop the virus from reproducing. This helps protect CD4 cells, keeping the immune system strong enough to fight off disease.

22. One type of disorder mentioned in ch8 is Anemia, which occurs when the red blood cell does not deliver enough oxygen to meet the body’s needs. Another disorder mentioned in ch9 is HIV. HIV infects and kills macrophages, dendritic cells, and helper T cells. It leaves the body vulnerable to infections and rare forms of cancer.