Lymphatics questions/answers

Exam 1	Exam 2
The thoracic duct drains:	"Sensitized" lymphocytes are those which:
A. all the lymphatic structures in the lower trunk.	A. have been cloned to form memory cells.
B. all the lymphatic structures in the neck and head.	B. have been exposed to a recent foreign antigen or foreign body.
C. Both A and B	C. have become tolerant to the body's own proteins.
D. Neither A nor B	D. have converted from pre-processed stem cells to mesenchymal cells.
2. Which of the following is a lymphatic "nodule"?	E. None of the above
A. The inferior portion of the external ears	
B. The tonsils	2. The secondary or anamnestic response in immunity:
C. The "Adam's apple"	A. occurs after the primary response has activated specific B-cells.
D. All of the above	B. is due to proliferation of plasma cells from stimulated T-cells.
3. Which is/are not a function of the spleen?	C. is more effective that the primary response because more antibodies are produced in a shorter period of time.
A. Destruction and production (in utero) of RBC's	D. results in the production of different classes of
B. phagocytosis of some red blood cells	antibodies than the primary response.
C. Edema formation	E. are similar in function to plasma cells.
D. Reservoir for RBC's	
E. All of the above	3. The AIDS virus infects:
A Missis Association and Installed the Committee of the C	A. B-cells.
Which tonsils are located in the posterior nasal cavity?	B. T-effector cells.
A. Lingual	C. T-suppressor cells.
	D. T-helper cells.

B. Pharyngeal	E. NK-cells.
C. Palatine	
D. All of the above	4. The spleen:
	A. detects and responds to foreign substances in the blood.
Red streaks extending up the arm from an infection in the hand are most likely caused by:	B. destroys worn out red blood cells.
A. inflamed lymphatic vessels.	C. is a reservoir for red blood cells.
B. inflamed veins.	D. can act as a reservoir for platelets.
C. microorganisms that release a red pigment.	E. All of the above
D. bilirubin derived from the breakdown of red blood cells.	
E. the sunset, as in "red streaks in the sunset".	5. Antibodies can bind to:
	A. antigens, and interfere with their activity.
Which of the following is/are an example of an extremely specific defense mechanism?	B. antigens, and make them more likely to be phagocytized.
A. Phagocytosis	C. antigens, and initiate an inflammatory response.
B. Inflammation	D. cell surface antigens and cause the cells to agglutinate.
C. Antibody formation	E. All of the above
D. All of the preceding	
E. None of the preceding	6. Nonspecific body defenses include:
	1. Phagocytosis
7. In <u>? immunity</u> , an individual makes his own antibodies, while in <u>? immunity</u> , the antibodies are	2. T Cells
presented to him in antisera.	3. Plasma cells
A. active; passive	
B. natural; acquired	A. 1 only
C. passive; active	B. 2 only
D. acquired; natural	C. 3 only
	D. 1 and 3
8. Vaccination introduces attenuated <u>?</u> which provide	

a(n) ? type response.	E. 2 and 3
A. antibodies; passive	
B. antibodies; therapeutic	7. Helper T cells:
C. antigens; acquired	A. bind tightly to target cells and release a lymphotoxin called perforin.
D. antigens; prophylactic	B. are essential in both humoral and cell mediated
E. antigens; therapeutic	immune function activation.
	C. do not release interleukin 2.
9. The idea that "lymphocytic cloning ability is destroyed	D. often function to decrease the immune response.
before birth" is the premise for explaining the condition known as:	E. None of the above
A. immunity.	
B. tolerance.	8. Immunity:
C. autoimmune disease.	A. is not possible without a thyroid gland.
D. antigenicity.	B. is always achieved by getting a disease.
E. sensitivity.	C. confers "resistance" to specific diseases by antibody production.
	D. may be acquired by eating antigens.
10. T-Lymphocytes become ? when exposed to tissue transplants from non-related persons.	E. may be acquired only by injection with the proper antibodies.
A. B-lymphocytes	
B. hemocytoblast	When B-cells are activated, they:
C. platelet-producers	·
D. sensitized lymphocytes	A. multiply and produce plasma cells which release antibodies into the circulation.
E. plasma cells	B. rush to the site of invasion and shower a pathogen with antibodies.
	C. form several types of helper cells which produce
11. The thymus plays an important role in the development of (the)	complement.
A. endocrine system.	D. develop into macro phages which phagocytize the invaders.
B. cellular immunity.	10 Which of the following is/are a function of the

C. circulatory system. lymphatic System: D. integumentary system. A. Serves as an interstitial fluid drainage system. E. lymphatic system. B. Removes bacteria from tissue fluid. C. Produces viruses and bacteria for use in the large Intestine and appendix. 12. The most important function of T-cells is/are: D. All of the above A. phagocytosis of foreign antigens. E. A and B only B. potentiation of the antibody function of Blymphocytes. C. Both A and B 11. A "clone" of identical lymphocytes is produced in the --?-- In response to invasion of --?--. A. Thymus; antibodies D. Neither A nor B B. Lungs, foreign antigens C. Lymph nodes; phagocytized foreign matter 13. The lymphatic system differs from the circulatory system: D. Cerebrum; toxic nerve impulses A. by only carrying fluid away from tissues. E. None of the above B. in that the epithelial cells of lymph capillaries do not overlap. C. in that lymph capillaries are far more permeable 12. The lymphatic and venous systems are similar in that than blood capillaries. A. They both contain red blood cells. D. in that the lymph capillaries allow free movement of fluid in and out of the capillaries. B. The walls of the vessels are impermeable to proteins. E. A and C only C. Both A and B D. Neither A nor B 14. A "B Cell" responds to the initial antigen challenge immediately by all of these except: A. enlargement and rapid mitosis. 13. Active immunity is acquired by either infection with the live organism or by: B. formation of a large number of cells just like the original. A. Being given the antibody from a person or animal that been infected. C. immediate production of antigen-specific antibodies. B. Exposure to histocompatible (or similar) antigens. D. production of progeny cells that include plasma C. Vaccination. cells and memory cells. D. Blood transfusions.

E. All of the above 15. Select the correct statement about immune function: A. when a B-lymphocyte expresses a single unique receptor for an antigen on its cell surface, it is 14. The factors that are believed to be responsible for the said to be immunocompetent. flow of lymph include: B. some lymphocytes will never encounter an A. Contraction of skeletal muscles during activity. antigen, to which they are capable of responding. B. Contraction of the smooth muscle in the wall of the C. an antigen only determines which existing lymph vessels. lymphocytes will be stimulated to proliferate. C. Pressure changes in the thorax during breathing. D. once immunocompetence is established, the cell is committed to react with that one antigen. D. Blood pressure in the large arteries. E. All of the above E. All except D. 16. --?-- in the intercellular space are more likely to enter 15. "Interferon" is: lymph capillaries than blood capillaries. A. A toxic substance released by environmental A. Bacteria poisons. B. Walter molecules B. Something which interferes with the development of immunity. C. Sugar molecules C. A tissue extract which prevents viral RNA from changing normal cellular DNA activity. D. Salt molecules E. All of the above D. A substance which releases histamine during inflammation. E. A type of "passive immunity". 17. The composition of lymph is similar to that of A. whole blood. 16. The thoracic duct carries tissue fluid from the --?-- to the --?-.. B. interstitial fluid. A. Arterioles; capillary beds C. sugar. B. Capillaries, venules D. chyme (fluid in stomach) C. Cisterna chyli; subclavian vein E. semen. D. Heart; coronary circulation E. Lymphatic capillaries; giant lacteal of the intestines. 18. The spleen: A. is situated in the upper right portion of the abdominal cavity.

B. is the largest lymphoid organ in the body.	
C. Both A and B	17. The term "antigenic" means :
D. Neither A nor B	A. Able to form specific antibodies
21.1.6	B. Comes from a protein precursor
19. The lymphatic system returns fluid from tissue	C. Both a and b
spaces to the	D. Neither a nor b
A. circulatory system.	
B. spinal fluid.	18. The likelihood of? increases with age and wear
C. Both A and B	and tear on body tissues.
D. Neither A nor B	A. Immune tolerance
	B. Autoimmunity
20. Lymph in the thoracic duct should have a much	C. Agglutination
higher lymphocyte count than lymph in peripheral lymph vessels because the lymphocytes:	D. Natural immunity
A. have just circulated through the tissues and are	
carrying waste material.	19. Plasma cells are derived from:
B. have multiplied by mitotic division in the lymph stream.	A. Mast cells.
C. have increased in numbers because this lymph	B. lymphocytes.
has just passed through numerous lymph nodes.	C. Bone marrow.
D. have not as yet been filtered out by passage through the lymph nodes.	D. Monocytes.
E. have not as yet been filtered out by passing through two or the primary filters, the liver and the	
spleen.	20. Because the thymus gland is important in the pre- processing of T-lymphocytes before birth, it is considered to be a:
21. The functions of the spleen include	A. Vestigial organ
A. destruction of foreign organisms reaching it thru the blood.	B. Pre-processing organ
B. destruction of worn out lymphocytes	C. Circulatory organ
C. serves as a lymph reservoir.	D. All of the above
D. formation of red blood cells after birth.	E. None of the above

E. All of the above	
E. All of the above	21. The primary function of the lymphatic system is
22. Factor(s) controlling flow of lymph include:	A. circulation of nutrients
A. Gravity in areas below the heart	B. the transport of hormones
B. muscular movements and valve action in veins	C. the production maintenance, and distribution of lymphocytes
C. Inspiration and expiration	D. the production, maintenance, and distribution of plasma proteins
D. All of the above	E. both C and D
23. Which of the following is not a factor in the movement of lymph?	22. Anatomically, lymph vessels resemble
A. Arterial pulsations	A. elastic arteries
B. Squeezing action of skeletal muscles upon veins	B. muscular arteries
C. Breathing	C. arterioles
D. Contraction of smooth muscle in the visceral organs	D. medium veins
E. Negative pressure in thoracic cavity	E. the vena cavae
24. T-lymphocytes become ? when exposed to tissue transplants from non-relatives.	23. Lymph nodes do all of the following, <u>except</u> A. produce antibodies
A. B-lymphocytes	B. monitor the contents of lymph
B. Hemocytoblasts	C. remove debris and pathogens from the lymph
C. Platelet-producers	D. act as a "way station" for cancer cells
D. Killer lymphocytes	E. remove excess nutrients from the lymph
E. Plasma cells	
25. Functions of the "immune (or lymphatic) system" include:	24. Lymphocytes are located in each of the following tissues or organs except the A. tonsils
A. involvement in the elimination of foreign bodies.	B. spleen
B. prevents successful transplantation of organs from	

non-related persons.	C. lymph nodes
C. Both A and B	D. brain
D. Neither A nor B	E. thymus gland
26. "The ability to resist toxins or organisms that would damage another tissue" is called:	25. The body's nonspecific defenses include all of the following, except
A. tolerance.	A. the skin
B. immunity.	B. complement
C. antigenicity.	C. interferon
D. phagocytosis.	D. inflammation
E. Inflammation	E. antibodies
27. In passive immunity:	26. Each of the following is a physical barrier to infection except
A. antibodies made by another person are injected into the patient as a form of treatment.	A. body hair
B. the patient produces lymphocytes and antibodies in response to an infection.	B. epithelium
C. immunity lasts for many years because memory cells are produced.	C. mucous secretions
	D. complement
D. All of the above	E. basement membranes
E. A and B only	
	27. The second line of defense against pathogens are the
28. The type of resistance that develops as a result of developing a disease is:	A. T cells
A. natural-acquired active immunity.	B. B cells
B. artificial-acquired active immunity.	C. NK cells
C. artificial-acquired passive immunity.	D. phagocytes
D. natural-acquired passive immunity.	
	E. plasma cells
29. Two means of acquiring active immunity are	

vaccination and:	
A. agglutination.	28. Immunity that results from the natural exposure to an antigen in the environment is called ? immunity.
B. infection.	A. active
C. pregnancy.	B. natural passive
D. All of the preceding.	C. acquired
	D. auto
30. If a mother should introduce gamma globulin against measles to her fetus, then the fetus would have a type of – ? produced by – ? means.	E. innate
A. active immunity; acquired	29. In active immunization, the
B. passive immunity; acquired	A. immune system attacks normal body cells
C. passive immunity; natural	B. body is deliberately exposed to an antigen
D. active immunity; natural	C. body receives antibodies produced by another person
31. The following processes, A to E occur in getting humoral immunity. Which is first out of order?	D. body receives antibodies produced by another animal E. genes fro antibodies are introduced into the body
A. Production of stem cells in bone marrow	
B. Potentiation at thymus and other areas, such as the liver	30. The cells responsible for humoral immunity are the ? cells.
C. Cloning in response to microbial introduction	A. NK
D. Antigenicity by plasma cells.	В. В
E. Antibody production to specific antigens	C. helper T
	D. cytotoxic T
32. The idea that one's own antigens provide too much exposure to the thymus in the pre-processing time and thus destroy the ability to later provide lymphocyte cloning,	E. suppressor T
is called:	31. Suppressor T cells act to
A. phagocytosis.	A. suppress antigens
B. coagulation.	B. limit the degree of memory in memory T cells

C. autoimmunity.	C. limit antigen proliferation
D. tolerance.	D. lower the responses of other T cells and B cells
	E. produce antibodies invited in autoimmunity
33. Antibodies combine with molecules which are called:	
A. nucleic acids.	32. Leslie has a bad sore throat and the lymph glands in her neck are swollen. This would indicate that
B. foreign bodies.	A. the focus of the infection is the lymph glands
C. antigens.	B. lymph is not flowing through these lymph glands
D. antagonists.	C. the affected lymph glands contain an increased
E. agonists.	number of lymphocytes
	D. the lymph gland is actively producing phagocytes
34. Cells responsible for immunity:	E. the lymph gland has increased its secretion of thymosin
A. know or recognize their own body's molecules.	
B. recognize the macro molecules from other organisms as foreign.	33. In order for a lymphocyte to respond to an antigen, the antigen must
C. launch immune attacks when stimulated by foreign macro molecules.	A. be phagocytized by the lymphocyte
D. All of the above	B. enter the cytoplasm of the lymphocyte
E. A and B only	C. bind to the DNA of the lymphocyte
	D. bind to specific receptors on the lymphocyte membrane
35. Which of the following is thought to be a possible cause of autoimmune disease?	E. depolarize the lymphocyte
A. An imbalance between too much B-cell activity and not enough suppressor T-cell activity.	
B. Altering of cells or tissues so that surface antigens	34. B cells are primarily activated by the action of
cause the production of killer T cells or antibodies to them.	A. antigens
C. Long-term deprivation of sleep, causing prolonged loss in rem-sleep, and thus a drastic drop in serotonin levels.	B. antibodies
	C. helper T cells
D. All of the above	D. macrophages
	E. plasma cells

36. The production of antibodies in response to invasion of foreign antigens is facilitated by the action of?lymphocytes in lymph nodes.	35. The following are steps in the cell-mediated immune response.
A. A	several cycles of mitosis occur
B. B	antigen is engulfed and presented by a macrophage
C. C	cytotoxic T cells migrate to focus of infection
D. D	undifferentiated T cells with specific receptors recognize the antigen
E. T	T cells differentiate into cytotoxic T cells and T memory cells
37. Which of the following is the better definition of immunity?	cytotoxic T cells release perforin and/or lymphotoxin.
A. Immunity refers to the resistance of the body to microbes: viruses, bacteria, and other unicellular and multicellular organisms. B. Immunity constitutes all the physiological mechanisms which allow the body to recognize materials	The correct sequence for these steps is A. 4, 1, 5, 3, 6, 2
as foreign to itself and to neutralize or eliminate them. 38. The (gland) organ which determines the ability to provide cellular immunity, very early in life, is the:	B. 2, 4, 1, 5, 3, 6 C. 1, 2, 4, 5, 3, 6 D. 3, 2, 4, 1, 5, 6
A. thyroid.	E. 3, 6, 4, 5, 1, 2
B. pituitary.	
C. thymus.	36. All of the following are true of the secondary or
D. testes.	anamnestic response of humoral immunity, except that it
E. brain	A. involves memory B cells B. results in elevated titres of antibodies sooner than in the primary response
39. ? from the thymus is believed to give rise to sensitized lymphocytes and eventual cellular immunity.	C. generally prevents a person from showing symptoms of the disease
A. Pre-processing	D. can occur even if the second exposure occurs years after the initial exposure
B. Enzymes	E. promotes an increased susceptibility to immune
C. Antibodies	system failure

D. Cells E. Foreign antigens	LYMPHATICS-2 ANSWERS
 40. When antigens (foreign substances) enter the respiratory tract, A. atherosclerosis results. B. the probability for success of a heart transplant increases. C. B-lymphocytes multiply and form antibody-producing plasma cells. D. the clotting reactions are initiated. 	1. "Sensitized" lymphocytes are those which: A. have been cloned to form memory cells. B. have been exposed to a recent foreign antigen or foreign body. C. have become tolerant to the body's own proteins. D. have converted from pre-processed stem cells to mesenchymal cells. E. None of the above
E. alveolar macrophages attempt to destroy them before delivering their by-products to lymph nodes.	
LYMPHATICS-1 ANSWERS 1. The thoracic duct drains: A. all the lymphatic structures in the lower trunk. B. all the lymphatic structures in the neck and head. C. Both A and B D. Neither A nor B	2. The secondary or anamnestic response in immunity: A. occurs after the primary response has activated specific B-cells. B. is due to proliferation of plasma cells from stimulated T-cells. C. is more effective that the primary response because more antibodies are produced in a shorter period of time. D. results in the production of different classes of antibodies than the primary response. E. are similar in function to plasma cells.
 2. Which of the following is a lymphatic "nodule"? A. The inferior portion of the external ears B. The tonsils C. The "Adam's apple" D. All of the above 	3. The AIDS virus infects: A. B-cells. B. T-effector cells. C. T-suppressor cells. D. T-helper cells. E. NK-cells.

3.	Which is/are not a function of the spleen?	
	A. Destruction and production (in utero) of RBC's	4. The spleen:
	B. phagocytosis of some red blood cells	A. detects and responds to foreign substances in the blood.
	C. Edema formation	B. destroys worn out red blood cells.
	D. Reservoir for RBC's	C. is a reservoir for red blood cells.
	E. All of the above	D. can act as a reservoir for platelets.
4.	Which tonsils are located in the posterior nasal cavity?	E. All of the above
	A. Lingual	5. Antibodies can bind to:
	B. Pharyngeal	A. antigens, and interfere with their activity.
	C. Palatine	B. antigens, and make them more likely to be phagocytized.
	D. All of the above	C. antigens, and initiate an inflammatory response.
5.	Red streaks extending up the arm from an infection in the hand are most likely caused by:	D. cell surface antigens and cause the cells to agglutinate.
	A. inflamed lymphatic vessels.	E. All of the above
	B. inflamed veins.	
	C. microorganisms that release a red pigment.	6. Nonspecific body defenses include:
ce	D. bilirubin derived from the breakdown of red blood lls.	Phagocytosis T Cells
	E. the sunset, as in "red streaks in the sunset".	3. Plasma cells
6.	Which of the following is/are an example of an extremely specific defense mechanism?	A. 1 only
	A. Phagocytosis	B. 2 only
	B. Inflammation	C. 3 only
	C. Antibody formation	D. 1 and 3
		E. 2 and 3

D. All of the preceding 7. Helper T cells: E. None of the preceding A. bind tightly to target cells and release a lymphotoxin called perforin. 7. In ? immunity, an individual makes his own B. are essential in both humoral and cell mediated antibodies, while in? immunity, the antibodies are immune function activation. presented to him in antisera. A. active; passive C. do not release interleukin 2. B. natural; acquired D. often function to decrease the immune response. E. None of the above C. passive; active D. acquired; natural 8. Immunity: 8. Vaccination introduces attenuated ? which provide A. is not possible without a thyroid gland. a(n) ? type response. B. is always achieved by getting a disease. A. antibodies; passive C. confers "resistance" to specific diseases by antibody production. B. antibodies; therapeutic C. antigens; acquired D. may be acquired by eating antigens. D. antigens; prophylactic E. may be acquired only by injection with the proper antibodies. E. antigens; therapeutic 9. When B-cells are activated, they: 9. The idea that "lymphocytic cloning ability is destroyed before birth" is the premise for explaining the A. multiply and produce plasma cells which release antibodies into the circulation. condition known as: A. immunity. B. rush to the site of invasion and shower a pathogen with antibodies. B. tolerance. C. form several types of helper cells which produce complement. C. autoimmune disease. D. develop into macro phages which phagocytize the D. antigenicity. invaders. E. sensitivity. 10 Which of the following is/are a function of the lymphatic System: 10.T-Lymphocytes become ? when exposed to tissue transplants from non-related persons.

A. B-lymphocytes	A. Serves as an interstitial fluid drainage system.
B. hemocytoblast	B. Removes bacteria from tissue fluid.
C. platelet-producers	C. Produces viruses and bacteria for use in the large Intestine and appendix.
D. sensitized lymphocytes	D. All of the above
E. plasma cells	E. A and B only
	L. A and b only
11.The thymus plays an important role in the development of (the)	11. A "clone" of identical lymphocytes is produced in the? In response to invasion of? A. Thymus;
A. endocrine system.	antibodies
B. cellular immunity.	B. Lungs, foreign antigens
C. circulatory system.	C. Lymph nodes; phagocytized foreign matter
D. integumentary system.	D. Cerebrum; toxic nerve impulses
E. lymphatic system.	E. None of the above
12.The most important function of T-cells is/are:	12. The lymphatic and venous systems are similar in that
A. phagocytosis of foreign antigens.	A. They both contain red blood cells.
B. potentiation of the antibody function of B-lymphocytes.	B. The walls of the vessels are impermeable to proteins.
C. Both A and B	C. Both A and B
D. Neither A nor B	D. Neither A nor B
13.The lymphatic system differs from the circulatory system:	13. Active immunity is acquired by either infection with the live organism or by:
A. by only carrying fluid away from tissues.	A. Being given the antibody from a person or animal that been infected.
 B. in that the epithelial cells of lymph capillaries do not overlap. 	B. Exposure to histocompatible (or similar) antigens.
C. in that lymph capillaries are far more permeable than blood capillaries.	C. Vaccination.
·	D. Blood transfusions.
 D. in that the lymph capillaries allow free movement of fluid in and out of the capillaries. 	E. All of the above

E. A and C only

- 14.A "B Cell" responds to the initial antigen challenge immediately by all of these except:
 - A. enlargement and rapid mitosis.
- B. formation of a large number of cells just like the original.
- C. immediate production of antigen-specific antibodies.
 - D. production of progeny cells that include plasma cells and memory cells.

E. Cell to cell combat which includes phagocytosis

- 15. Select the correct statement about immune function:
 - A. when a B-lymphocyte expresses a single unique receptor for an antigen on its cell surface, it is said to be immunocompetent.
- B. some lymphocytes will never encounter an antigen, to which they are capable of responding.
 - C. an antigen only determines which existing lymphocytes will be stimulated to proliferate.
 - D. once immunocompetence is established, the cell is committed to react with that one antigen.

E. All of the above

16. --?-- in the intercellular space are more likely to enter lymph capillaries than blood capillaries.

A. Bacteria

- B. Walter molecules
- C. Sugar molecules
- D. Salt molecules

- 14. The factors that are believed to be responsible for the flow of lymph include:
 - A. Contraction of skeletal muscles during activity.
- B. Contraction of the smooth muscle in the wall of the lymph vessels.
 - C. Pressure changes in the thorax during breathing.
 - D. Blood pressure in the large arteries.
 - E. All except D.
- 15. "Interferon" is:
- A. A toxic substance released by environmental poisons.
- B. Something which interferes with the development of immunity.
- C. A tissue extract which prevents viral RNA from changing normal cellular DNA activity.
- D. A substance which releases histamine during inflammation.
 - E. A type of "passive immunity".
- 16. The thoracic duct carries tissue fluid from the --?-- to the --?--. .
 - A. Arterioles; capillary beds
 - B. Capillaries, venules
 - C. Cisterna chyli; subclavian vein
 - D. Heart; coronary circulation
 - E. Lymphatic capillaries; giant lacteal of the intestines.
- 17. The term "antigenic" means:

E. All of the above	A. Able to form specific antibodies
	B. Comes from a protein precursor
17. The composition of lymph is similar to that of	C. Both a and b
A. whole blood.	D. Neither a nor b
B. interstitial fluid.	
C. sugar.	18. The likelihood of? increases with age and wear and tear on body tissues.
D. chyme (fluid in stomach)	A. Immune tolerance
E. semen.	B. Autoimmunity
	C. Agglutination
18. The spleen:	D. Natural immunity
A. is situated in the upper right portion of the abdominal cavity.	D. Natural illilliumty
B. is the largest lymphoid organ in the body.	19. Plasma cells are derived from:
C. Both A and B	A. Mast cells.
D. Neither A nor B	B. lymphocytes.
	C. Bone marrow.
19. The lymphatic system returns fluid from tissue spaces to the	D. Monocytes.
A. circulatory system.	
B. spinal fluid.	20. Because the thymus gland is important in the pre- processing of T-lymphocytes before birth, it is considered to be a:
C. Both A and B	
C. Bolli A and B	A. Vestigial organ
D. Neither A nor B	A. Vestigial organ B. Pre-processing organ
D. Neither A nor B	
	B. Pre-processing organ
D. Neither A nor B 20. Lymph in the thoracic duct should have a much higher lymphocyte count than lymph in peripheral lymph	B. Pre-processing organ C. Circulatory organ

C. have increased in numbers because this lymph A. circulation of nutrients has just passed through numerous lymph nodes. B. the transport of hormones D. have not as yet been filtered out by passage through the lymph nodes. C. the production maintenance, and distribution of lymphocytes E. have not as yet been filtered out by passing through two or the primary filters, the liver and the D. the production, maintenance, and distribution of spleen. plasma proteins E. both C and D 21. The functions of the spleen include A. destruction of foreign organisms reaching it 22. Anatomically, lymph vessels resemble thru the blood. A. elastic arteries B. destruction of worn out lymphocytes B. muscular arteries C. serves as a lymph reservoir. C. arterioles D. formation of red blood cells after birth. D. medium veins E. All of the above E. the vena cavae 22. Factor(s) controlling flow of lymph include: 23.Lymph nodes do all of the following, except A. Gravity in areas below the heart A. produce antibodies B. muscular movements and valve action in veins B. monitor the contents of lymph C. Inspiration and expiration C. remove debris and pathogens from the lymph D. All of the above D. act as a "way station" for cancer cells E. remove excess nutrients from the lymph 23. Which of the following is not a factor in the movement of lymph? A. Arterial pulsations 24.Lymphocytes are located in each of the following tissues or organs except the B. Squeezing action of skeletal muscles upon veins A. tonsils C. Breathing B. spleen D. Contraction of smooth muscle in the visceral organs C. lymph nodes

D. brain

E. Negative pressure in thoracic cavity

	E. thymus gland
24. T-lymphocytes become ? when exposed to tissue transplants from non-relatives.	
A. B-lymphocytes	25.The body's nonspecific defenses include all of the following, except
B. Hemocytoblasts	A. the skin
C. Platelet-producers	B. complement
D. Killer lymphocytes	
E. Plasma cells	C. interferon
	D. inflammation
	E. antibodies
25. Functions of the "immune (or lymphatic) system" include:	
A. involvement in the elimination of foreign bodies.	26.Each of the following is a physical barrier to infection except
B. prevents successful transplantation of organs from non-related persons.	A. body hair
C. Both A and B	B. epithelium
D. Neither A nor B	C. mucous secretions
	D. complement
26. "The ability to resist toxins or organisms that would damage another tissue" is called:	E. basement membranes
A. tolerance.	
B. immunity.	27. The second line of defense against pathogens are the
C. antigenicity.	A. T cells
D. phagocytosis.	B. B cells
E. Inflammation	C. NK cells
E. Illiammaton	D. phagocytes
	E. plasma cells
27. In passive immunity:	
A. antibodies made by another person are injected into the patient as a form of treatment.	28.Immunity that results from the natural exposure to an
B. the patient produces lymphocytes and antibodies in	antigen in the environment is called ? immunity.
response to an infection.	A. active
C. immunity lasts for many years because memory	

cells are produced.	B. natural passive
D. All of the above	C. acquired
E. A and B only	D. auto
	E. innate
28. The type of resistance that develops as a result of developing a disease is:	
A. natural-acquired active immunity.	29.In active immunization, the
B. artificial-acquired active immunity.	A. immune system attacks normal body cells
·	B. body is deliberately exposed to an antigen
C. artificial-acquired passive immunity.	C. body receives antibodies produced by another
D. natural-acquired passive immunity.	person
	D. body receives antibodies produced by another animal
29. Two means of acquiring active immunity are vaccination and:	E. genes fro antibodies are introduced into the body
A. agglutination.	
B. infection.	30.The cells responsible for humoral immunity are the ? cells.
C. pregnancy.	A. NK
D. All of the preceding.	В. В
	C. helper T
30. If a mother should introduce gamma globulin against	·
measles to her fetus, then the fetus would have a type of – ? produced by – ? means.	D. cytotoxic T
A. active immunity; acquired	E. suppressor T
B. passive immunity; acquired	
C. passive immunity; natural	31.Suppressor T cells act to
•	A. suppress antigens
D. active immunity; natural	B. limit the degree of memory in memory T cells
	C. limit antigen proliferation
31. The following processes, A to E occur in getting humoral immunity. Which is first out of order?	
•	D. lower the responses of other T cells and B cells
A. Production of stem cells in bone marrow	
B. Potentiation at thymus and other areas, such as	

d P	le i arresta in a
the liver	E. produce antibodies invited in autoimmunity
C. Cloning in response to microbial introduction	
D. Antigenicity by plasma cells.	32.Leslie has a bad sore throat and the lymph glands in her neck are swollen. This would indicate that
E. Antibody production to specific antigens	A. the focus of the infection is the lymph glands
32. The idea that one's own antigens provide too much exposure to the thymus in the pre-processing time and thus destroy the ability to later provide lymphocyte cloning,	B. lymph is not flowing through these lymph glands C. the affected lymph glands contain an increased number of lymphocytes
is called:	D. the lymph gland is actively producing phagocytes
A. phagocytosis.	E. the lymph gland has increased its secretion of thymosin
B. coagulation.	
C. autoimmunity.	33.In order for a lymphocyte to respond to an antigen, the antigen must
D. tolerance.	A. be phagocytized by the lymphocyte
	B. enter the cytoplasm of the lymphocyte
33. Antibodies combine with molecules which are called:	C. bind to the DNA of the lymphocyte
A. nucleic acids. B. foreign bodies.	D. bind to specific receptors on the lymphocyte membrane
C. antigens.	E. depolarize the lymphocyte
D. antagonists.	
E. agonists.	34.B cells are primarily activated by the action of
	A. antigens
34. Cells responsible for immunity:	B. antibodies
A. know or recognize their own body's molecules.	C. helper T cells
B. recognize the macro molecules from other organisms as foreign.	D. macrophages
C. launch immune attacks when stimulated by foreign macro molecules.	E. plasma cells
D. All of the above	35.The following are steps in the cell-mediated immune response.

E. A and B only	several cycles of mitosis occur
	antigen is engulfed and presented by a macrophage
35. Which of the following is thought to be a possible cause of autoimmune disease?	cytotoxic T cells migrate to focus of infection
A. An imbalance between too much B-cell activity and not enough suppressor T-cell activity.	undifferentiated T cells with specific receptors recognize the antigen
B. Altering of cells or tissues so that surface antigens cause the production of killer T cells or antibodies to them.	5. T cells differentiate into cytotoxic T cells and T memory cells
C. Long-term deprivation of sleep, causing prolonged loss in rem-sleep, and thus a drastic drop in serotonin levels.	6. cytotoxic T cells release perforin and/or lymphotoxin.
D. All of the above	
D. All of the above	The correct sequence for these steps is
36. The production of antibodies in response to invasion	A. 4, 1, 5, 3, 6, 2
of foreign antigens is facilitated by the action of? lymphocytes in lymph nodes.	B. 2, 4, 1, 5, 3, 6
A. A	C. 1, 2, 4, 5, 3, 6
В. В	D. 3, 2, 4, 1, 5, 6
C. C	E. 3, 6, 4, 5, 1, 2
D. D	
E. T	36.All of the following are true of the secondary or anamnestic response of humoral immunity, except that it
37. Which of the following is the better definition of immunity?	A. involves memory B cells
	B. results in elevated titres of antibodies sooner than in the primary response
A. Immunity refers to the resistance of the body to microbes: viruses, bacteria, and other unicellular and multicellular organisms.	C. generally prevents a person from showing symptoms of the disease
B. Immunity constitutes all the physiological mechanisms which allow the body to recognize materials as foreign to itself and to neutralize or	D. can occur even if the second exposure occurs years after the initial exposure
eliminate them.	E. promotes an increased susceptibility to immune system failure
38. The (gland) organ which determines the ability to provide cellular immunity, very early in life, is the:	

A. thyroid.	
B. pituitary.	
C. thymus.	
D. testes.	
E. brain	
39. ? from the thymus is believed to give rise to sensitized lymphocytes and eventual cellular immunity.	
A. Pre-processing	
B. Enzymes	
C. Antibodies	
D. Cells	
E. Foreign antigens	
40. When antigens (foreign substances) enter the respiratory tract,	
A. atherosclerosis results.	
B. the probability for success of a heart transplant increases.	
C. B-lymphocytes multiply and form antibody- producing plasma cells.	
D. the clotting reactions are initiated.	
E. alveolar macrophages attempt to destroy them before delivering their by-products to lymph nodes.	