

Big Idea 2.D Formatives**Multiple Choice**

Identify the letter of the choice that best completes the statement or answers the question.

- _____ 1. Which of the following assertions about regulation of body temperature is *true*?
- Most animals are endotherms.
 - Endothermy involves production of heat through metabolism.
 - Ectothermic animals are cold-blooded.
 - Mammals are always ectothermic.
 - Insects are always ectothermic.
- _____ 2. Life history strategies usually result from
- environmental pressures.
 - natural selection.
 - conscious choice.
 - A and B only
 - A, B, and C
- _____ 3. Natural selection involves energetic trade-offs between or among life history traits such as
- number of offspring per reproductive episode.
 - number of reproductive episodes per lifetime.
 - age at first reproduction.
 - A and C only
 - A, B, and C
- _____ 4. In the logistic equation $dN/dt = rN, \frac{(K-N)}{K}$, r is a measure of the population's intrinsic rate of increase. It is determined by which of the following?
- birth rate
 - death rate
 - density
 - A and B only
 - A, B, and C
- _____ 5. Carrying capacity (K)
- is calculated as the product of annual per capita birth rate (r).
 - remains constant in the presence of density-dependent population regulation.
 - differs among species, but does not vary within a given species.
 - is often determined by energy limitation.
 - is always eventually reached in any population.

Use the following choices to answer the question below. Each choice may be used once, more than once, or not at all.

- A. $\frac{rN}{K}$
- B. rN
- C. $rN(K+N)$
- D. $rN\frac{(K-N)}{K}$
- E. $rN\frac{(N-K)}{K}$

- _____ 6. Exponential growth of a population is represented by $dN/dt =$
- a. A
 - b. B
 - c. C
 - d. D
 - e. E
- _____ 7. Logistic growth of a population is represented by $dN/dt =$
- a. A
 - b. B
 - c. C
 - d. D
 - e. E
- _____ 8. As N approaches K for a certain population, which of the following is predicted by the logistic equation?
- a. The growth rate will not change.
 - b. The growth rate will approach zero.
 - c. The population will show an Allee effect.
 - d. The population will increase exponentially.
 - e. The carrying capacity of the environment will increase.
- _____ 9. Which of these ecosystems accounts for the largest amount of Earth's net primary productivity?
- a. tundra
 - b. savanna
 - c. salt marsh
 - d. open ocean
 - e. tropical rain forest
- _____ 10. Which of these ecosystems has the highest net primary productivity per square meter?
- a. savanna
 - b. open ocean
 - c. boreal forest
 - d. tropical rain forest
 - e. temperate forest

- _____ 11. How is it that the open ocean produces the highest net primary productivity of Earth's ecosystems, yet net primary productivity per square meter is relatively low?
- It contains greater concentrations of nutrients.
 - It receives a greater amount of solar energy per unit area.
 - It has the greatest total area.
 - It contains more species of organisms.
 - Its producers are generally much smaller than its consumers.
- _____ 12. How does inefficient transfer of energy among trophic levels influence the typically high risk of extinction shared by most top predators?
- Predators are sparsely distributed.
 - Predators have relatively small population sizes.
 - Predators are more disease-prone than animals at lower trophic levels.
 - A and B only
 - A, B, and C
- _____ 13. Trophic efficiency is
- the ratio of net secondary production to assimilation of primary production.
 - the percentage of production transferred from one trophic level to the next.
 - the ratio of net production at one trophic level to the net production at the level below, expressed as a percentage.
 - usually greater than production efficiencies.
 - both B and C
- _____ 14. Which of the following is primarily responsible for limiting the number of trophic levels in most ecosystems?
- Many primary and higher-order consumers are opportunistic feeders.
 - Most predators require large home ranges.
 - Nutrient cycles involve both abiotic and biotic components of ecosystems.
 - Nutrient cycling rates tend to be limited by decomposition.
 - Each energy transfer is less than 100% efficient.
- _____ 15. Nitrogen is available to plants only in the form of
- ammonium.
 - nitrite.
 - nitrate.
 - A and C only
 - A, B, and C
- _____ 16. In the nitrogen cycle, the bacteria that replenish the atmosphere with N_2 are
- Rhizobium* bacteria.
 - nitrifying bacteria.
 - denitrifying bacteria.
 - methanogenic protozoans.
 - nitrogen-fixing bacteria.
- _____ 17. Water is able to form hydrogen bonds because
- oxygen has a valence of 2.
 - the water molecule is shaped like a tetrahedron.
 - the bonds that hold together the atoms in a water molecule are polar covalent bonds.
 - the oxygen atom in a water molecule has a weak positive charge.
 - each of the hydrogen atoms in a water molecule is weakly negative in charge.

- _____ 18. What do cohesion, surface tension, and adhesion have in common with reference to water?
- All increase when temperature increases.
 - All are produced by ionic bonding.
 - All are properties related to hydrogen bonding.
 - All have to do with nonpolar covalent bonds.
 - C and D only
- _____ 19. Desert rabbits are adapted to the warm climate because their large ears aid in the removal of heat due to the
- high surface tension of water.
 - high heat of vaporization of water.
 - high specific heat of water.
 - buffering capacity of water.
 - dissociation of water molecules.
- _____ 20. Ice is lighter and floats in water because it is a crystalline structure in which each water molecule is bonded to a maximum of four other water molecules by which kind of bond?
- ionic
 - hydrogen
 - covalent
 - A and C only
 - A, B, and C

For the following questions, match the membrane model or description with the scientist(s) who proposed the model. Each choice may be used once, more than once, or not at all.

- H. Davson and J. Danielli
- I. Langmuir
- C. Overton
- S. Singer and G. Nicolson
- E. Gorter and F. Grendel

- _____ 21. The membrane is a mosaic of protein molecules bobbing in a fluid bilayer of phospholipids.
- A
 - B
 - C
 - D
 - E
- _____ 22. The presence of cholesterol in the plasma membranes of some animals
- enables the membrane to stay fluid more easily when cell temperature drops.
 - enables the animal to remove hydrogen atoms from saturated phospholipids.
 - enables the animal to add hydrogen atoms to unsaturated phospholipids.
 - makes the membrane less flexible, allowing it to sustain greater pressure from within the cell.
 - makes the animal more susceptible to circulatory disorders.

- _____ 23. What is one of the ways that the membranes of winter wheat are able to remain fluid when it is extremely cold?
- by increasing the percentage of unsaturated phospholipids in the membrane
 - by increasing the percentage of cholesterol molecules in the membrane
 - by decreasing the number of hydrophobic proteins in the membrane
 - A and B only
 - A, B, and C
- _____ 24. What is one of the functions of cholesterol in animal cell membranes?
- facilitates transport of ions
 - stores energy
 - maintains membrane fluidity
 - speeds diffusion
 - phosphorylates ADP
- _____ 25. Plant cells begin synthesizing large quantities of heat-shock proteins
- after the induction of chaperone proteins.
 - in response to the lack of CO₂ following the closing of stomata by ethylene.
 - when desert plants are quickly removed from high temperatures.
 - when they are subjected to moist heat (steam) followed by electric shock.
 - when the air around species from temperate regions is above 40°C.
- _____ 26. In extremely cold regions, woody species may survive freezing temperatures by
- emptying water from the vacuoles to prevent freezing.
 - decreasing the numbers of phospholipids in cell membranes.
 - decreasing the fluidity of all cellular membranes.
 - producing canavanine as a natural antifreeze.
 - increasing cytoplasmic levels of specific solute concentrations, such as sugars.
- _____ 27. All of the following are responses of plants to cold stress *except*
- the production of a specific solute "plant antifreeze" that reduces water loss.
 - excluding ice crystals from the interior walls.
 - conversion of the fluid mosaic cell membrane to a solid mosaic one.
 - an alteration of membrane lipids so that the membranes remain flexible.
 - increasing the proportion of unsaturated fatty acids in the membranes.
- _____ 28. In general, which of the following is *not* a plant response to herbivores?
- domestication, so that humans can protect the plant
 - attracting predatory animals, such as parasitoid wasps
 - chemical defenses, such as toxic compounds
 - physical defenses, such as thorns
 - production of volatile molecules
- _____ 29. In order for a plant to initiate chemical responses to herbivory,
- the plant must be directly attacked by an herbivore.
 - volatile "signal" compounds must be perceived.
 - gene-for-gene recognition must occur.
 - phytoalexins must be released.
 - all of the above must happen.

- _____ 30. Which of the following are defenses that some plants use against herbivory?
- production of the unusual amino acid canavanine
 - release of volatile compounds that attract parasitoid wasps
 - association of plant tissues with mycorrhizae
 - A and B only
 - A, B, and C
- _____ 31. The presence of all of the following tend to increase species diversity *except*
- competitive exclusion.
 - keystone predators.
 - patchy environments.
 - moderate disturbances.
 - migration of populations.
- _____ 32. According to the competitive exclusion principle, two species cannot continue to occupy the same
- habitat.
 - niche.
 - territory.
 - range.
 - biome.
- _____ 33. Two barnacles, *Balanus* and *Chthamalus*, can both survive on the lower rocks just above the low-tide line on the Scottish coast, but only *Balanus* actually does so, with *Chthamalus* adopting a higher zone. Which of the following best accounts for this niche separation?
- competitive exclusion
 - predation of *Chthamalus* by *Balanus*
 - cooperative displacement
 - primary succession
 - mutualism
- _____ 34. All of the following describe possible results of competition between two species *except*
- competitive exclusion.
 - aposematic coloration.
 - resource partitioning.
 - reduction in the population of one species.
 - reduction in the populations of both species.
- _____ 35. Resource partitioning is best described by which of the following statements?
- Competitive exclusion results in the success of the superior species.
 - Slight variations in niche allow similar species to coexist.
 - Two species can coevolve and share the same niche.
 - Species diversity is maintained by switching between prey species.
 - A climax community is reached when no new niches are available.
- _____ 36. Resource partitioning would be most likely to occur between
- sympatric populations of a predator and its prey.
 - sympatric populations of species with similar ecological niches.
 - sympatric populations of a flowering plant and its specialized insect pollinator.
 - allopatric populations of the same animal species.
 - allopatric populations of species with similar ecological niches.

- _____ 37. Which of the following is least likely to kill the organism it feeds on?
- herbivore
 - predator
 - seed eater
 - carnivore
 - parasite
- _____ 38. Which of the following is *not* an example of a plant defense against herbivory?
- nicotine
 - cryptic coloration
 - spines
 - thorns
 - strychnine
- _____ 39. Evidence shows that some grasses benefit from being grazed. Which of the following terms would best describe this plant-herbivore interaction?
- mutualism
 - commensalism
 - parasitism
 - competition
 - predation
- _____ 40. Which of the following types of species interaction is *incorrectly* paired to its effects on the density of the two interacting populations?
- predation-one increases, one decreases
 - parasitism-one increases, one decreases
 - commensalism-both increase
 - mutualism-both increase
 - competition-both decrease
- _____ 41. The species richness of a community refers to the
- number of food chains.
 - number of different species.
 - energy content of all species.
 - relative numbers of individuals in each species.
 - total number of all organisms.
- _____ 42. To measure species diversity in a community, you need to know
- the number of species.
 - the relative abundance of each species.
 - the physical size of each species.
 - both A and B
 - A, B, and C
- _____ 43. With a few exceptions, most of the food chains studied by ecologists have a maximum of how many links?
- 2
 - 3
 - 5
 - 10
 - 15

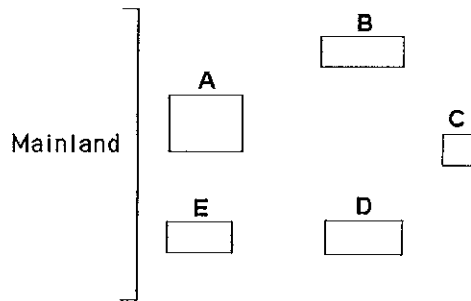
- _____ 44. Which of the following members of a marine food chain is most analogous to a grasshopper in a terrestrial food chain?
- phytoplankton
 - zooplankton
 - detritivore
 - fish
 - shark
- _____ 45. The dominant species in a community is
- characterized by very large individuals with long lives.
 - the best competitor in the community.
 - the best predator in the community.
 - the population with the most biomass.
 - the most energetically efficient species in the community.
- _____ 46. When lichens grow on bare rock, they may eventually accumulate enough organic material around them to supply the foothold for later rooted vegetation. These early pioneering lichens can be said to do what to the later arrivals?
- tolerate
 - inhibit
 - facilitate
 - exclude
 - concentrate

Refer to the list of terms below to answer the following questions. Each term may be used once, more than once, or not at all.

- parasitism
- mutualism
- inhibition
- facilitation
- commensalism

- _____ 47. the relationship between legumes and nitrogen-fixing bacteria
- A
 - B
 - C
 - D
 - E
- _____ 48. successional event in which one organism makes the environment more suitable for another organism
- A
 - B
 - C
 - D
 - E

Refer to the diagram below of five islands formed at about the same time near a particular mainland to answer the following questions.



- ___ 49. island with the greatest number of species
- A
 - B
 - C
 - D
 - E
- ___ 50. island with the least number of species
- A
 - B
 - C
 - D
 - E
- ___ 51. island with the lowest immigration rate
- A
 - B
 - C
 - D
 - E
- ___ 52. A population is *correctly* defined as having which of the following characteristics?
- inhabiting the same general area
 - individuals belonging to the same species
 - possessing a constant and uniform density and dispersion
- I only
 - III only
 - I and II only
 - II and III only
 - I, II, and III

- _____ 53. Which of the following can contribute to density-dependent regulation of populations?
- the accumulation of toxic waste
 - intraspecific competition for nutrients
 - predation
 - all of the above
 - none of the above
- _____ 54. To leave the digestive tract, a substance must cross a cell membrane. During which stage of food processing does this take place?
- ingestion
 - digestion
 - hydrolysis
 - absorption
 - elimination
- _____ 55. Intracellular digestion is usually immediately preceded by which process?
- hydrolysis
 - endocytosis
 - absorption
 - elimination
 - secretion
- _____ 56. Which of these animals has a gastrovascular cavity?
- pigeon
 - hydra
 - elephant
 - beetle
 - leech
- _____ 57. Which of the following do not need a digestive system?
- heterotrophs
 - autotrophs
 - herbivores
 - omnivores
 - carnivores
- _____ 58. Which one of the following has a shape most like an animal with a gastrovascular cavity?
- a drinking straw
 - a baseball bat
 - a garden hose
 - an umbrella
 - a vase
- _____ 59. Which of the following organisms controls its body temperature by behavior *only*?
- green frog
 - penguin
 - bluefin tuna
 - house sparrow
 - gray wolf

Name: _____

ID: A

- _____ 60. Most amphibians and land-dwelling invertebrates have what in common?
- They are ectothermic organisms.
 - They use behavioral adaptations to maintain body temperature.
 - When on land, most have a net loss of heat across a moist body surface.
 - When in water, they are mainly thermoconformers.
 - Invertebrates have nothing in common with amphibians when it comes to regulating body temperatures.

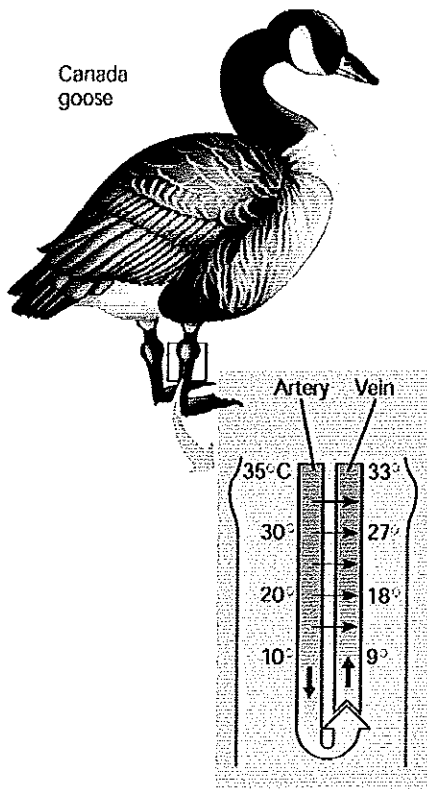
Match the terms below to the following questions. Each term may be used once, more than once, or not at all

- ectothermy
- endothermy
- evaporation
- torpor
- thermogenesis

- _____ 61. hibernation
- A
 - B
 - C
 - D
 - E
- _____ 62. estivation
- A
 - B
 - C
 - D
 - E
- _____ 63. absorption of heat from the surroundings
- A
 - B
 - C
 - D
 - E
- _____ 64. process that occurs in the brown fat of some mammals
- A
 - B
 - C
 - D
 - E
- _____ 65. panting in dogs
- A
 - B
 - C
 - D
 - E

- _____ 66. fur and feathers
- A
 - B
 - C
 - D
 - E

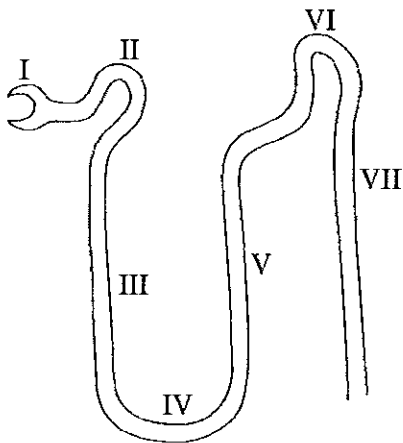
Use the figure below to answer the following questions



- _____ 67. The temperature difference between arterial blood and venous blood near the goose's body
- is minimized by countercurrent exchange.
 - is maximized because the blood has run through very cold feet.
 - is minimized by dilation of the capillaries in the feet of the goose, allowing heat to be lost.
 - is more than the difference between the venous blood near the body and the venous blood at the feet.
 - allows the goose to lose maximum heat to the environment.
- _____ 68. Which organism(s) has excretory structures known as protonephridia?
- flatworms
 - earthworms
 - insects
 - vertebrates
 - both C and D

- _____ 69. Which organism(s) has excretory organs known as Malpighian tubules?
- earthworms
 - flatworms
 - insects
 - jellyfish
 - both A and B
- _____ 70. Which of the following excretory systems is partly based on the filtration of fluid under high hydrostatic pressure?
- flame-bulb system of flatworms
 - protonephridia of rotifers
 - metanephridia of earthworms
 - Malpighian tubules of insects
 - kidneys of vertebrates
- _____ 71. What is the functional unit of the kidney?
- cortex
 - vasa recta
 - nephron
 - bladder
 - glomerulus
- _____ 72. Which part of the vertebrate nephron consists of capillaries?
- glomerulus
 - loop of Henle
 - distal tubule
 - Bowman's capsule
 - collecting duct

Refer to the figure below, a diagram of a renal tubule, to answer the following questions.



- _____ 73. In which region would urine become more concentrated?
- I
 - III
 - IV
 - V
 - VII

- _____ 74. The innate immunity that protects a person digging in the garden from developing a microbial infection includes all of the following *except*
- lymphocytes.
 - the skin.
 - mucous membranes.
 - acidic secretions.
 - antimicrobial proteins.
- _____ 75. Physical barriers to invasion by other organisms
- include the skin and the mucous membranes.
 - are difficult for bacteria and viruses to penetrate.
 - may work in conjunction with secretions like tears, perspiration, and mucus.
 - Only A and C are correct.
 - A, B, and C are correct.
- _____ 76. Which action below is affected by an antihistamine?
- blood vessel dilation
 - phagocytosis of antigens
 - MHC presentation by macrophages
 - the secondary immune response
 - clonal selection by antigens
- _____ 77. Inflammatory responses may include all of the following *except*
- clotting proteins sealing off a localized area.
 - increased activity of phagocytes in an inflamed area.
 - reduced permeability of blood vessels to conserve plasma.
 - release of substances to increase the blood supply to an inflamed area.
 - increased release of white blood cells from bone marrow.
- _____ 78. What is the single most important event establishing a primary immune response?
- the presentation of viral protein complexed to class I MHC
 - the lyses of virally infected cells by cytotoxic T cells
 - the phagocytosis of microbes by antigen-presenting cells
 - the recognition of self versus foreign
 - apoptosis of virally infected cells
- _____ 79. Carbon dioxide and other gases prevent some heat from escaping Earth's atmosphere. This is known as the _____ effect.
- warming
 - summer
 - carbon
 - carbon dioxide
 - greenhouse
- _____ 80. Which of the following most directly relates to the current biodiversity crisis?
- increased atmospheric carbon dioxide
 - ozone depletion
 - overexploitation of species
 - habitat destruction
 - zoned reserves

- _____ 81. According to most conservation biologists, the single greatest threat to global biodiversity is
- chemical pollution of water and air.
 - stratospheric ozone depletion.
 - insufficient recycling programs for nonrenewable resources.
 - alteration or destruction of the physical habitat.
 - global climate change resulting from a variety of human activities.
- _____ 82. Forest fragmentation is likely to result in
- a loss of species that live in open habitat.
 - an increase in species that live in open habitat.
 - a loss of species that live in the interior of forests.
 - B and C only
 - A, B, and C
- _____ 83. Human-induced modifications of the nitrogen cycle can result in
- eutrophication of freshwater ecosystems.
 - increased availability of fixed nitrogen to primary producers.
 - accumulation of toxic levels of nitrates in groundwater.
 - A and C only
 - A, B, and C
- _____ 84. The high levels of pesticides found in birds of prey is an example of
- eutrophication.
 - predation.
 - biological magnification.
 - the green world hypothesis.
 - chemical cycling through an ecosystem.
- _____ 85. Agricultural lands frequently require nutritional supplementation because
- genetically engineered crops require more nutrients.
 - the nutrients that enter the plants grown on those lands do not return to that soil.
 - the prairies that comprise good agricultural land tend to be nutrient-poor.
 - grains raised for feed must be fortified, and thus require additional nutrients.
 - both A and B
- _____ 86. Burning fossil fuels releases oxides of sulfur and nitrogen. Ultimately, these are probably responsible for
- the death of fish in Norwegian lakes.
 - rain with a pH of 3.0.
 - calcium deficiency in soils.
 - B and C only
 - A, B, and C
- _____ 87. Which of the following statements is (are) true of plants?
- Unlike animals, plants cannot respond to stimuli.
 - Plants are stationary and are incapable of movement.
 - Plants adjust their growth and development in response to environmental cues.
 - Only A and B are true.
 - A, B, and C are true.

- _____ 88. The transduction pathway that activates systemic acquired resistance in plants is initially signaled by
- antisense RNA.
 - P_{fr} phytochrome.
 - salicylic acid.
 - abscisic acid.
 - red, but not far-red, light.
- _____ 89. Which of the following are examples or parts of plants' systemic acquired resistance against infection?
- phytoalexins
 - salicylic acid
 - alarm hormones
 - A and B only
 - A, B, and C
- _____ 90. What are antigens?
- proteins found in the blood that cause foreign blood cells to clump
 - proteins embedded in B cell membranes
 - proteins that consist of two light and two heavy polypeptide chains
 - foreign molecules that trigger the generation of antibodies
 - proteins released during an inflammatory response
- _____ 91. The clonal selection theory implies that
- brothers and sisters have similar immune responses.
 - antigens activate specific lymphocytes.
 - only certain cells can produce interferon.
 - a B cell has multiple types of antigen receptors.
 - the body selects which antigens it will respond to.
- _____ 92. Which of the following cell types are responsible for initiating a secondary immune response?
- memory cells
 - macrophages
 - stem cells
 - B cells
 - T cells
- _____ 93. The MHC is important in
- distinguishing self from nonself.
 - recognizing parasitic pathogens.
 - identifying bacterial pathogens.
 - identifying cancer cells.
 - both A and D

- _____ 94. The following events occur when a mammalian immune system first encounters a pathogen. Place them in correct sequence and then choose the answer that indicates that sequence.
- I. Pathogen is destroyed.
 - II. Lymphocytes secrete antibodies.
 - III. Antigenic determinants from pathogen bind to antigen receptors on lymphocytes.
 - IV. Lymphocytes specific to antigenic determinants from pathogen become numerous.
 - V. Only memory cells remain.
- a. I, III, II, IV, V
 - b. III, II, I, V, IV
 - c. II, I, IV, III, V
 - d. IV, II, III, I, V
 - e. III, IV, II, I, V
- _____ 95. Which cell type interacts with both the humoral and cell-mediated immune pathways?
- a. plasma cells
 - b. cytotoxic T cells
 - c. natural killer cells
 - d. CD8 cells
 - e. helper T cells
- _____ 96. What happens to people who receive flu vaccinations?
- a. They develop active immunity to the flu.
 - b. They develop passive immunity to the flu.
 - c. They have immunity to smallpox infection.
 - d. They have an increased number of natural killer (NK) cells.
 - e. They develop a hypersensitive humoral immune response.
- _____ 97. Naturally acquired passive immunity would involve the
- a. injection of vaccine.
 - b. ingestion of interferon.
 - c. placental transfer of antibodies.
 - d. absorption of pathogens through mucous membranes.
 - e. injection of antibodies.
- _____ 98. A major difference between active and passive immunity is that active immunity requires
- a. acquisition and activation of antibodies.
 - b. proliferation of lymphocytes in bone marrow.
 - c. transfer of antibodies from the mother across the placenta.
 - d. direct exposure to a living or simulated pathogen.
 - e. secretion of interleukins from macrophages.

**Big Idea 2.D Formatives
Answer Section****MULTIPLE CHOICE**

- | | |
|------------|-------------------|
| 1. ANS: B | TOP: Concept 40.5 |
| 2. ANS: D | TOP: Concept 52.2 |
| 3. ANS: E | TOP: Concept 52.2 |
| 4. ANS: D | TOP: Concept 52.3 |
| 5. ANS: D | TOP: Concept 52.4 |
| 6. ANS: B | TOP: Concept 52.3 |
| 7. ANS: D | TOP: Concept 52.4 |
| 8. ANS: B | TOP: Concept 52.4 |
| 9. ANS: D | TOP: Concept 54.2 |
| 10. ANS: D | TOP: Concept 54.2 |
| 11. ANS: C | TOP: Concept 54.2 |
| 12. ANS: D | TOP: Concept 54.3 |
| 13. ANS: E | TOP: Concept 54.3 |
| 14. ANS: E | TOP: Concept 54.3 |
| 15. ANS: D | TOP: Concept 54.4 |
| 16. ANS: C | TOP: Concept 54.4 |
| 17. ANS: C | TOP: Concept 3.1 |
| 18. ANS: C | TOP: Concept 3.2 |
| 19. ANS: B | TOP: Concept 3.2 |
| 20. ANS: B | TOP: Concept 3.2 |
| 21. ANS: D | TOP: Concept 7.1 |
| 22. ANS: A | TOP: Concept 7.1 |
| 23. ANS: A | TOP: Concept 7.1 |
| 24. ANS: C | TOP: Concept 7.1 |
| 25. ANS: E | TOP: Concept 39.4 |
| 26. ANS: E | TOP: Concept 39.4 |
| 27. ANS: C | TOP: Concept 39.4 |
| 28. ANS: A | TOP: Concept 39.5 |
| 29. ANS: B | TOP: Concept 39.5 |
| 30. ANS: D | TOP: Concept 39.5 |
| 31. ANS: A | TOP: Concept 53.1 |
| 32. ANS: B | TOP: Concept 53.1 |
| 33. ANS: A | TOP: Concept 53.1 |
| 34. ANS: B | TOP: Concept 53.1 |
| 35. ANS: B | TOP: Concept 53.1 |
| 36. ANS: B | TOP: Concept 53.1 |
| 37. ANS: E | TOP: Concept 53.1 |
| 38. ANS: B | TOP: Concept 53.1 |
| 39. ANS: A | TOP: Concept 53.1 |

40. ANS: C	TOP: Concept 53.1
41. ANS: B	TOP: Concept 53.2
42. ANS: D	TOP: Concept 53.2
43. ANS: C	TOP: Concept 53.2
44. ANS: B	TOP: Concept 53.2
45. ANS: D	TOP: Concept 53.2
46. ANS: C	TOP: Concept 53.2
47. ANS: B	TOP: Concept 53.1
48. ANS: D	TOP: Concept 53.3
49. ANS: A	TOP: Concept 53.4
50. ANS: C	TOP: Concept 53.4
51. ANS: C	TOP: Concept 53.4
52. ANS: C	TOP: Concept 52.1
53. ANS: D	TOP: Concept 52.5
54. ANS: D	TOP: Concept 41.3
55. ANS: B	TOP: Concept 41.3
56. ANS: B	TOP: Concept 41.3
57. ANS: B	TOP: Concept 41.3
58. ANS: E	TOP: Concept 41.3
59. ANS: A	TOP: Concept 40.5
60. ANS: A	TOP: Concept 40.5
61. ANS: D	TOP: Concept 40.5
62. ANS: D	TOP: Concept 40.5
63. ANS: A	TOP: Concept 40.5
64. ANS: E	TOP: Concept 40.5
65. ANS: C	TOP: Concept 40.5
66. ANS: B	TOP: Concept 40.5
67. ANS: A	TOP: Concept 40.5
68. ANS: A	TOP: Concept 44.3
69. ANS: C	TOP: Concept 44.3
70. ANS: E	TOP: Concept 44.3
71. ANS: C	TOP: Concept 44.4
72. ANS: A	TOP: Concept 44.4
73. ANS: E	TOP: Concept 44.4
74. ANS: A	TOP: Concept 43.1
75. ANS: E	TOP: Concept 43.1
76. ANS: A	TOP: Concept 43.1
77. ANS: C	TOP: Concept 43.1
78. ANS: D	TOP: Concept 43.1
79. ANS: E	TOP: Concept 55.1
80. ANS: D	TOP: Concept 55.1
81. ANS: D	TOP: Concept 55.1
82. ANS: D	TOP: Concept 55.3
83. ANS: E	TOP: Concept 54.5

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| 84. ANS: C | TOP: Concept 54.5 |
| 85. ANS: B | TOP: Concept 54.5 |
| 86. ANS: E | TOP: Concept 54.5 |
| 87. ANS: C | TOP: Concept 39.1 |
| 88. ANS: C | TOP: Concept 39.5 |
| 89. ANS: E | TOP: Concept 39.5 |
| 90. ANS: D | TOP: Concept 43.2 |
| 91. ANS: B | TOP: Concept 43.2 |
| 92. ANS: A | TOP: Concept 43.2 |
| 93. ANS: E | TOP: Concept 43.2 |
| 94. ANS: E | TOP: Concept 43.3 |
| 95. ANS: E | TOP: Concept 43.3 |
| 96. ANS: B | TOP: Concept 43.3 |
| 97. ANS: C | TOP: Concept 43.3 |
| 98. ANS: D | TOP: Concept 43.3 |