

Biology Questions

Molecular Biology: Enzymes and Metabolism

1. Which of the following statements about enzymes is false?
 - a. Enzymes are catalysts within cells.
 - b. All the cells of an organism contain the same enzymes.
 - c. Enzymes brings substances together so they undergo a reaction.
 - d. Enzymes lower the activation energy of spontaneous reactions in the cell.
2. How is a biochemical pathway regulated?
 - a. The product of one reaction becomes the substrate for the next.
 - b. The end product replaces the initial substrate in the pathway.
 - c. The end product inhibits the first enzyme in the pathway by binding to an allosteric site.
 - d. All of these are correct.
3. Which steps in glycolysis require the input of energy?
 - a. the glucose priming steps
 - b. the phosphorylation of glucose
 - c. the phosphorylation of fructose 6-phosphate
 - d. All of these steps require the input of energy.
4. The electrons generated from the Krebs cycle are transferred to _____ and then are shuttled to _____.
 - a. NAD^+ / oxygen
 - b. NAD^+ / electron transport chain
 - c. NADH / oxygen
 - d. NADH / electron transport chain
5. The electron transport chain pumps protons
 - a. out of the mitochondrial matrix.
 - b. out of the intermembrane space and into the matrix.
 - c. out of the mitochondrion and into the cytoplasm.
 - d. out of the cytoplasm and into the mitochondrion.
6. Which of the following is *not* a stage of aerobic respiration?
 - a. glycolysis
 - b. pyruvate oxidation
 - c. the Krebs cycle
 - d. electron transport chain

7. A catalyst

- a. allows an endergonic reaction to proceed more quickly.
- b. increases the activation energy so a reaction can proceed more quickly.
- c. lowers the amount of energy needed for a reaction to proceed.
- d. is required for an exergonic reaction to occur.

8. Which of the following has *no* effect on the rate of enzyme-catalyzed reactions?

- a. temperature
- b. pH
- c. concentration of substrate
- d. none of these

9. How many molecules of CO₂ are produced for each molecule of glucose that passes through glycolysis and the Krebs cycle?

- a. 2
- b. 3
- c. 6
- d. 7

10. What process of cellular respiration generates the most ATP?

- a. glycolysis
- b. oxidation of pyruvate
- c. Krebs cycle
- d. chemiosmosis

Molecular Biology: DNA and Protein Synthesis

1. If one strand of a DNA molecule has the base sequence ATTGCAT, its complementary strand will have the sequence

- a. ATTGCAT
- b. TAACGTA
- c. GCCATGC
- d. CGGTACG

2. If an mRNA codon reads UAC, its complementary anticodon will be

- a. TUC.
- b. ATG.
- c. AUG.
- d. CAG.

3. The three-nucleotide codon system can be arranged into _____ combinations.
- 16
 - 20
 - 64
 - 128
4. The site where RNA polymerase attaches to the DNA molecule to start the formation of RNA is called a(n)
- promoter.
 - exon.
 - intron.
 - GC hairpin.
5. When mRNA leaves the cell's nucleus, it next becomes associated with
- proteins.
 - a ribosome.
 - tRNA.
 - RNA polymerase.
6. DNA is made up of building blocks called
- proteins.
 - bases.
 - nucleotides.
 - deoxyribose.
7. X-ray diffraction experiments conducted by _____ led to the determination of the structure of DNA.
- Francis Crick
 - James Watson
 - Erwin Chargaff
 - Rosalind Franklin
8. The bases of RNA are the same as those of DNA with the exception that RNA contains
- cysteine instead of cytosine.
 - uracil instead of thymine.
 - cytosine instead of guanine.
 - uracil instead of adenine.

9. Each amino acid in a protein is specified by

- a. several genes.
- b. a promoter.
- c. an mRNA molecule.
- d. a codon.

10. The nucleotide sequences on DNA that actually have information encoding a sequence of amino acids are

- a. introns.
- b. exons.
- c. UAA.
- d. UGA.

Molecular Biology: Eukaryotes

1. What causes cancer in cells?

- a. damage to genes
- b. chemical damage to cell membranes
- c. UV damage to transport proteins
- d. All of these cause cancer in cells.

2. Replicate copies of each chromosome are called _____ and are joined at the _____

- a. homologues/centromere
- b. sister chromatids/kinetochore
- c. sister chromatids/centromere
- d. homologues/kinetochore

3. Most eukaryotic organisms have _____ chromosomes in their cells.

- a. 1-5
- b. 10-50
- c. 100-500
- d. over 1,000

4. Which of the following is *not* a method of posttranscriptional control in eukaryotic cells?

- a. processing the transcript
- b. selecting the mRNA molecules that are translated
- c. digesting the DNA immediately after translation
- d. selectively degrading the mRNA transcripts

5. Which of the following is *not* found in a eukaryotic transcription complex?

- a. activator
- b. RNA
- c. enhancer
- d. TATA-binding protein

Genetics

1. A cross between two individuals results in a ratio of 9:3:3:1 for four possible phenotypes. This is an example of a

- a. dihybrid cross.
- b. monohybrid cross.
- c. testcross.
- d. none of these.

2. In the human ABO blood grouping, the four basic blood types are type A, type B, type AB, and type O. The blood proteins A and B are

- a. simple dominant and recessive traits.
- b. incomplete dominant traits.
- c. codominant traits.
- d. sex-linked traits.

3. Genetic diversity is greatest in

- a. parthenogenesis.
- b. sexual reproduction.
- c. asexual reproduction.
- d. binary fission.

4. During which stage of meiosis does crossing over occur?

- a. prophase I
- b. anaphase I
- c. prophase II
- d. telophase II

5. Mitosis results in two _____ cells, while meiosis results in _____ haploid cells.

- a. haploid/four
- b. diploid/two
- c. diploid/four
- d. haploid/two

6. Fertilization results in

- a. a zygote.
- b. a diploid cell.
- c. a cell with a new genetic combination.
- d. All of these are correct.

7. What finding finally determined that genes were carried on chromosomes?

- a. heat sensitivity of certain enzymes that determined coat color
- b. sex-linked eye color in fruit flies
- c. the finding of complete dominance
- d. establishing pedigrees

8. Which of the following is not a hypothesis about the evolution of sex?

- a. It evolved to repair damaged DNA.
- b. It evolved as a way to eliminate individuals.
- c. It evolved as a way to eliminate mutations.
- d. It evolved as a way to "store" recessive alleles that may prove beneficial in the future.

9. When two parents are crossed, the offspring are referred to as the

- a. recessives.
- b. testcross.
- c. F₁ generation.
- d. F₂ generation.

10. A Barr body is a(n)

- a. result of primary nondisjunction.
- b. inactivated Y chromosome.
- c. gene that plays a key role in male development.
- d. inactivated X chromosome.

11. Down syndrome in humans is due to

- a. three copies of chromosome 21.
- b. monosomy.
- c. two Y chromosomes.
- d. three X chromosomes.

Microbiology

1. The end result of the viral lytic cycle is
 - a. the release of new viruses.
 - b. the incorporation of viral genome into the host genome.
 - c. the conversion of the virus into a prophage.
 - d. Both b and c are correct.
2. Viruses consist of a _____ core surrounded by a protein coat.
 - a. RNA
 - b. DNA
 - c. chromosome
 - d. nucleic acid
3. Phages infect bacterial cells by
 - a. poking holes in the cell and injecting their DNA.
 - b. destroying the bacterial cell wall.
 - c. receptor-mediated endocytosis.
 - d. exocytosis.
4. The alteration of a cell's genome by the incorporation of foreign DNA is called
 - a. genetic conversion.
 - b. mutation.
 - c. transformation.
 - d. reverse transcription.
5. Which of the following statements is not true of prokaryotic cells?
 - a. Prokaryotic cells are multicellular.
 - b. Prokaryotic cells do not have a nucleus.
 - c. Prokaryotic cells have circular DNA.
 - d. Prokaryotic cells have flagella.
6. The prokaryotic genome is contained in the
 - a. plasmid.
 - b. endospore.
 - c. pilus.
 - d. nucleoid region.
7. Prokaryotic organisms that obtain their energy by oxidizing inorganic substances are called
 - a. chemoautotrophs.
 - b. photoautotrophs.
 - c. chemoheterotrophs.
 - d. photoheterotrophs.

8. Which of the following is not a characteristic of the fungi?

- a. They are all absorptive heterotrophs.
- b. They have cell walls made of chitin.
- c. Mitosis takes place within the nuclear membrane.
- d. They are all motile.

9. Which of the following statements best describes fungi?

- a. All are eukaryotic, multicellular autotrophs.
- b. All are eukaryotic heterotrophs that feed by absorption.
- c. All are prokaryotic, multicellular autotrophs.
- d. All are eukaryotic heterotrophs that feed by ingestion.

10. Which of the following is *not* found in prokaryotic cells?

- a. ribosomes
- b. cell wall
- c. nucleus
- d. photosynthetic membranes

Generalized Eukaryotic Cell

1. Which of the following statements is incorrect.

- a. DNA in the nucleus is usually coiled into chromosomes.
- b. The nucleolus is the site of ribosomal RNA synthesis.
- c. Some substances can pass into and out of the nucleus.
- d. Red blood cells can not synthesize RNA.

2. Which of the following matches are not correct.

- a. ribosomes -- rough ER
- b. protein synthesis -- smooth ER
- c. rough ER -- export of proteins out of cell
- d. smooth ER -- cells in intestine

3. Which of the following is *not* produced by the Golgi apparatus?

- a. glycolipids
- b. glycoproteins
- c. liposomes
- d. secretory vesicles

4. Proteins that stay within the cell are produced
- on free ribosomes in the cytoplasm.
 - in the nucleolus.
 - on ribosomes attached to rough ER.
 - on ribosomes and pass through the Golgi apparatus.
5. Why is the phospholipid molecule so appropriate as the primary structural component of plasma membranes?
- Phospholipids are completely insoluble in water.
 - Phospholipids form strong chemical bonds between the molecules, forming a stable structure.
 - Phospholipids form a selectively permeable structure.
 - Phospholipids form chemical bonds with membrane proteins that keep the proteins within the membrane.
6. Which increases the fluidity of the plasma membrane?
- having a large number of membrane proteins
 - the tight alignment of phospholipids
 - cholesterol present in the membrane
 - double bonds between carbon atoms in the fatty acid tails.
7. Which best describes the structure of a plasma membrane?
- proteins embedded within two layers of phospholipids
 - phospholipids sandwiched between two layers of proteins
 - proteins sandwiched between two layers of phospholipids
 - a layer of proteins on top of a layer of phospholipids
8. The movement of sodium ions from an area of higher concentration to an area of lower concentration is called _____.
- active transport
 - osmosis
 - diffusion
 - phagocytosis
9. Sucrose cannot pass through the membrane of a red blood cell (RBC) but water and glucose can. Which solution would cause the RBC to shrink the most?
- a hyperosmotic sucrose solution
 - a hyperosmotic glucose solution
 - a hypoosmotic sucrose solution
 - a hypoosmotic glucose solution

10. Molecules that are transported into the cell *up* their concentration gradients do so by
- facilitated diffusion.
 - osmosis.
 - coupled transport
 - none of the above
11. A cell placed in distilled water will
- shrivel up.
 - swell.
 - lose water.
 - result in no net diffusion of water molecules.

Specialized Eukaryotic Cells and Tissues

1. Which of the following is *not* considered a connective tissue?
- blood
 - muscle
 - adipose tissue
 - cartilage
2. Which of the following statements best describes the sliding filament mechanism of muscle contraction?
- Actin and myosin filaments do not shorten, but rather, slide past each other.
 - Actin and myosin filaments shorten and slide past each other.
 - As they slide past each other, actin filaments shorten, while myosin filaments do not shorten.
 - As they slide past each other, myosin filaments shorten, while actin filaments do not shorten.
3. What is the role of Ca^{++} in muscle contraction?
- It binds to tropomyosin, enabling troponin to move and reveal binding sites for cross-bridges.
 - It binds to troponin, enabling tropomyosin to move and reveal binding sites for cross-bridges.
 - It binds to tropomyosin, enabling troponin to release ATP.
 - It binds to troponin, enabling tropomyosin to release ATP.
4. Synapses are excitatory or inhibitory based on
- integration.
 - summation.
 - autonomic control.
 - saltatory conduction.

5. The ear detects sound by the movement of
- the basilar membrane.
 - the tectorial membrane.
 - the cupula that surrounds the hair cells.
 - fluid in the semicircular canals.

Nervous and Endocrine Systems

1. Which organ system is primarily responsible for coordinating, regulating, and integrating the various activities of the body?
- nervous
 - endocrine
 - muscular
 - respiratory
2. Which of the following statements best describes endocrine glands?
- Endocrine glands are ductless glands that secrete hormones.
 - Endocrine glands are ductless glands that secrete sweat, saliva, and digestive enzymes.
 - Endocrine glands secrete hormones through a duct.
 - Endocrine glands secrete sweat, saliva, and digestive enzymes through a duct.
3. Which of the following best describes the electrical state of a neuron at rest?
- The inside of a neuron is more negatively charged than the outside.
 - The outside of a neuron is more negatively charged than the inside.
 - The inside and the outside of a neuron have the same electrical charge.
 - K^+ ions leak into a neuron at rest.
4. A nerve impulse is initiated when
- physical disruption of the cell membrane causes some of its contents, including ions, to leak out.
 - the Schwann cells move to into their new positions.
 - voltage-gated channels close.
 - a reversal in the polarized state of the cell causes it to reach threshold.
5. The ear detects sound by the movement of
- the basilar membrane.
 - the tectorial membrane.
 - the cupula that surrounds the hair cells.
 - fluid in the semicircular canals.

6. Which is not involved in the knee-jerk reflex?
- stretching of the muscle
 - motor neuron
 - muscle spindle
 - an interneuron
7. The _____ cannot be controlled by conscious thought.
- motor neurons
 - somatic nervous system
 - autonomic nervous system
 - skeletal muscles
8. Which of the following statements about nerve tissue is false?
- Neurons transmit sensory information to the brain.
 - Both neurons and neuroglia are present in the CNS and PNS.
 - Neurons conduct electrical impulses.
 - All types of cells in nerve tissue conduct electrical impulses.

Circulatory, Lymphatic, and Immune Systems

1. A molecule of CO₂ that is generated in the cardiac muscle of the left ventricle would not pass through which of the following structures before leaving the body?
- right atrium
 - left atrium
 - right ventricle
 - left ventricle
2. The lymphatic system is like the circulatory system in that they both
- have nodes that filter out pathogens.
 - have a network of arteries.
 - have capillaries.
 - are closed systems.
3. Which of the following statements is false?
- Only arteries carry oxygenated blood.
 - Both arteries and veins have a layer of smooth muscle.
 - Both arteries and veins branch out into capillary beds.
 - Precapillary sphincters regulate blood flow through capillaries.

4. Cells that target and kill body cells infected by viruses is are
- macrophages.
 - natural killer cells.
 - monocytes.
 - neutrophils.
5. Which one of the following acts as the "alarm signal" to activate the body's immune system by stimulating helper T cells?
- B cells
 - interleukin-1
 - interleukin-2
 - histamines
6. How does your body detect millions of different antigens?
- The few hundred immunoglobulin genes can be rearranged or can undergo mutations to form millions of antibody molecules.
 - There are millions of different antibody genes.
 - The few hundred immunoglobulin genes undergo antigen shifting.
 - Each B cell has a different set of immunoglobulin genes, and so the activation of different B cells produces different antibodies.
7. Diseases in which the person's immune system no longer recognizes its own MHC proteins are called
- allergies.
 - autoimmune diseases.
 - immediate hypersensitivity.
 - delayed hypersensitivity.

Respiration System

1. When you take a deep breath, your stomach moves out because:
- swallowing air increases the volume of the thoracic cavity.
 - your stomach shouldn't move out when you take a deep breath because you want the volume of your chest cavity to increase, not your abdominal cavity.
 - contracting your abdominal muscles pushes your stomach out, generating negative pressure in your lungs.
 - when your diaphragm contracts, it moves down, pressing your abdominal cavity out.

2. If you hold your breath for a long time, body CO₂ levels are likely to _____, and the pH of body fluids is likely to _____.

- a. increase; increase
- b. decrease; increase
- c. increase; decrease
- d. decrease; decrease

Skin System

1. The epidermis fights microbial infections by

- a. making the surface of the skin acidic.
- b. excreting lysozyme to attack bacteria.
- c. producing mucus to trap microorganisms.
- d. all of these.

Digestive and Excretory Systems

1. When a mammal swallows, the food is prevented from going up into the nasal cavity by the

- a. esophagus.
- b. tongue.
- c. soft palate.
- d. epiglottis.

2. The first site of protein digestion in the digestive system is

- a. in the mouth.
- b. in the esophagus.
- c. in the stomach.
- d. in the small intestine.

3. How is the digestion of fats different from that of proteins and carbohydrates?

- a. Fat digestion occurs in the small intestine, and the digestion of proteins and carbohydrates occurs in the stomach.
- b. Fats are absorbed into the cells as fatty acids and monoglycerides but are then modified for absorption into the blood; amino acids and glucose are not modified further.
- c. Fats enter the hepatic portal circulation, but digested proteins and carbohydrates enter the lymphatic system.
- d. Digested fats are absorbed in the large intestine, and digested proteins and carbohydrates are absorbed in the small intestine.

4. The primary function of the large intestine is
- the breakdown and absorption of fats.
 - the absorption of vitamin K.
 - the absorption of water.
 - the concentration of solid wastes.
5. The _____ secretes digestive enzymes and bicarbonate solution into the small intestine to aid digestion.
- pancreas
 - liver
 - gallbladder
 - All of these are correct.
6. Which of the following represents the action of insulin?
- increases blood glucose levels by the hydrolysis of glycogen
 - increases blood glucose levels by stimulating glucagon production
 - decreases blood glucose levels by forming glycogen
 - increases blood glucose levels by promoting cellular uptake of glucose
7. Gastrin functions by
- enhancing the secretion of HCl in the stomach.
 - enhancing the secretion of pepsinogen in the stomach.
 - a negative feedback loop.
 - all of these.
8. Essential organic substances that are used in only tiny amounts by the body are called
- trace elements.
 - vitamins.
 - hormones.
 - minerals.

Muscle and Skeletal Systems

1. Exoskeletons provide excellent protection to internal organs. However, animals that utilize exoskeletons are usually relatively small. Why?
- These animals are only able to produce a limited amount of chitin.
 - Exoskeletons are not living tissue, and therefore they cannot grow.
 - A large exoskeleton would be too heavy to move.
 - During molting, these animals are especially vulnerable to predators and therefore do not usually live long enough to grow bigger.

Reproductive System and Development

1. Sexual reproduction
 - a. requires internal fertilization.
 - b. does not require meiosis.
 - c. increases the genetic diversity within a population.
 - d. often occurs between individuals of different species.

2. The testicles of male mammals are suspended in the scrotum because
 - a. the optimum temperature for sperm production is less than the normal core body temperature of the organism.
 - b. the optimum temperature for sperm production is higher than the normal core body temperature of the organism.
 - c. there is not enough room in the pelvic area for the testicles to be housed internally.
 - d. it is easier for the body to expel sperm during ejaculation.

3. Spermatogenesis is *not* directly affected by which hormones?
 - a. GnRH
 - b. inhibin
 - c. FSH
 - d. LH

4. Eggs and sperm are genetically very similar, but structurally very different. Why is this so?
 - a. Both contain a haploid chromosome number, but eggs must provide nutrients for early development, while sperm must be able to move efficiently.
 - b. Both contain a diploid chromosome number, but eggs must provide nutrients for early development, while sperm must be able to move efficiently.
 - c. Both contain maternal chromosomes, but only sperm can control which chromosomes are passed on.
 - d. Both contain a haploid chromosome number, but only eggs can control which chromosomes are passed on.

5. How would mammalian reproduction be affected if the meiotic strategy of spermatogenesis and oogenesis were reversed?
 - a. Not enough eggs would be made each month to ensure reproductive success.
 - b. Sperm production would decrease to one-fourth.
 - c. Eggs would be diploid while sperm would be haploid.
 - d. Sperm would be diploid while eggs would be haploid.

6. Early in the ovarian cycle, estrogen, produced in the follicle, _____ gonadotropin release, while later in the cycle, estrogen _____ gonadotropin release because

- a. inhibits; stimulates; feedback mechanisms are not involved early in the ovarian cycle.
- b. stimulates; inhibits; feedback mechanisms are not involved early in the ovarian cycle.
- c. inhibits; stimulates; the feedback mechanisms are dependent on the concentration of estrogen.
- d. stimulates; inhibits; the feedback mechanisms are dependent on the concentration of estrogen.

7. At what stage of the ovarian cycle are mammalian eggs most likely to become fertilized?

- a. at the beginning of the proliferative phase
- b. immediately after ovulation
- c. during the middle of the secretory phase
- d. during the menstrual phase

8. If we could monitor the amount of total gonadotropin activity in pregnant women, we would expect

- a. high levels of FSH and LH in the uterus to stimulate endometrial thickening.
- b. high levels of circulating FSH and LH to stimulate implantation of the embryo.
- c. high levels of hCG in the uterus to stimulate endometrial thickening.
- d. high levels of circulating hCG to stimulate estrogen and progesterone synthesis.

9. Holoblastic cleavage results in

- a. formation of a symmetrical blastula composed of cells of approximately equal size.
- b. formation of an asymmetrical blastula composed of cells of approximately unequal size.
- c. cell division of only the cells near the animal pole.
- d. cell division of only the cells near the vegetal pole.

10. If the trophoblast layer failed to form in a mammalian embryo, which of the following structures would not develop?

- a. the blastopore
- b. the inner cell mass
- c. the archenteron
- d. the fetal placenta

11. Gastrulation in mammals and birds is similar in that
- cells migrate over the dorsal lip to generate the archenteron in the anterior hemisphere of the embryo.
 - cells migrate inward from the upper layer of the blastodisc to form the mesoderm.
 - cells migrate outward from the upper layer of the blastodisc to form the mesoderm.
 - cells migrate inward from the lower layer of the blastodisc to form the mesoderm.
12. All of the following structures are derived from the mesoderm *except*
- muscles.
 - the liver.
 - gonads.
 - blood vessels.
13. Most fetal growth occurs in
- the first trimester.
 - the second trimester.
 - the third trimester.
 - the postnatal period.

Evolution

1. Over time, the same bones in different vertebrates were put to different uses. This falls under the category of
- missing links.
 - vestigial structures.
 - analogous structures.
 - homologous structures.
2. An example of convergent evolution is
- Australian marsupials and placental mammals.
 - the flippers in fish, penguins, and dolphins.
 - the wings in birds, bats, and insects.
 - all of these.
3. The hypothesis that evolution occurs in spurts, with great amounts of evolutionary change followed by periods of stasis, is
- punctuated equilibrium.
 - allopatric speciation.
 - gradualism.
 - Hardy-Weinberg equilibrium.

4. Speciation occurs most frequently in populations that are
- sympatric.
 - undergoing disruptive selection.
 - allopatric.
 - not geographically separated.
5. Which of the following is an example of mechanical isolation?
- Two species of birds live in the same habitat; one mates in spring and the other in summer.
 - Two species of frogs have different mating calls.
 - The flower structure of one species prevents the transfer of pollen from another species.
 - One species of lizards inhabits the trees, and another species inhabits the ground cover.
6. Darwin's examinations of fossils relied on _____ dating to determine the evolution of species.
- absolute
 - carbon
 - relative
 - radioactive isotope
7. After examining the evidence related to the evolution of hemoglobin, you might conclude that
- bird hemoglobin evolved prior to lamprey hemoglobin.
 - frogs are more closely related to lampreys than to birds.
 - evolutionary changes occur at the molecular level.
 - only DNA can be examined for establishing evolutionary differences.

Biology Answers

Molecular Biology: Enzymes and Metabolism

1. (b)
2. (c)
3. (d)
4. (b)
5. (a)
6. (a)
7. (c)
8. (d)
9. (c)
10. (d)

Molecular Biology: DNA and Protein Synthesis

1. (b)
2. (c)
3. (c)
4. (a)
5. (b)
6. (c)
7. (d)
8. (b)
9. (d)
10. (d)

Molecular Biology: Eukaryotes

1. (a)
2. (c)
3. (b)
4. (c)
5. (b)

Genetics

1. (a)
2. (c)
3. (b)
4. (a)
5. (c)
6. (d)
7. (b)

8. (b)
9. (c)
10. (d)
11. (a)

Microbiology

1. (a)
2. (d)
3. (a)
4. (c)
5. (a)
6. (d)
7. (a)
8. (d)
9. (b)
10. (c)

Generalized Eukaryotic Cell

1. (a)
2. (b)
3. (c)
4. (a)
5. (c)
6. (d)
7. (a)
8. (c)
9. (a)
10. (c)
11. (b)

Specialized Eukaryotic Cells and Tissues

1. (b)
2. (a)
3. (b)
4. (a)
5. (c)

Nervous and Endocrine Systems

1. (b)
2. (a)
3. (a)
4. (d)

5. (a)
6. (d)
7. (c)
8. (d)

Circulatory, Lymphatic, and Immune Systems

1. (b)
2. (c)
3. (a)
4. (b)
5. (b)
6. (a)
7. (b)

Respiration System

1. (d)
2. (c)

Skin System

1. (d)

Digestive and Excretory Systems

1. (c)
2. (c)
3. (b)
4. (d)
5. (a)
6. (c)
7. (d)
8. (b)

Muscle and Skeletal Systems

1. (c)

Reproductive System and Development

1. (c)
2. (a)
3. (d)

4. (a)
5. (b)
6. (c)
7. (b)
8. (d)
9. (a)
10. (d)
11. (b)
12. (b)
13. (c)

Evolution

1. (d)
2. (d)
3. (a)
4. (c)
5. (c)
6. (c)
7. (c)