

For each question, select the best answer from the four alternatives.

- Which tissue type covers and protects the human body? (3.1) **K/U**
 - connective
 - nerve
 - muscle
 - epithelial
- Which organ systems work together to absorb nutrients from food? (3.1–3.11) **K/U**
 - musculoskeletal system and digestive system
 - nervous system and circulatory system
 - digestive system and circulatory system
 - respiratory system and musculoskeletal system
- The cells that carry oxygen are
 - white blood cells.
 - red blood cells.
 - platelets.
 - plasma. (3.4) **K/U**
- Which of the following statements about organ donation and organ transplants is true? (3.7) **K/U**
 - The recipient of an organ donation is the only person who benefits.
 - Doctors are not sure how to minimize the risk of organ transplant rejection.
 - Organ transplants from deceased donors are more common than from living donors.
 - The person who has been waiting the longest automatically receives the first available organ.

Indicate whether each of the statements is TRUE or FALSE. If you think the statement is false, rewrite it to make it true.

- The process of digestion begins in the stomach. (3.3) **K/U**
- All tissues are able to regenerate themselves. (3.2) **K/U**

Copy each of the following statements into your notebook. Fill in the blanks with a word or phrase that correctly completes the sentence.

- The _____ nervous system is made up of the brain and spinal cord, and the _____ nervous system is made up of nerves that connect the rest of the body to the brain and spinal cord. (3.10) **K/U**
- The exchange of oxygen and carbon dioxide between the blood and the lungs occurs in tiny sacs called _____. (3.6) **K/U**

Match each term on the left with the most appropriate description on the right.

- | | |
|--------------------------|---|
| 9. (a) epithelial tissue | (i) cells that can differentiate to form specialized cells |
| (b) connective tissue | (ii) cells that can contract to move bones |
| (c) muscle tissue | (iii) cells arranged in thin sheets to cover surfaces |
| (d) nerve tissue | (iv) long, thin cells that conduct electrical impulses |
| (e) stem cells | (v) various types of cells that provide support or insulation (3.1, 3.2) K/U |

Write a short answer to each of these questions.

- Name two systems that interact with the circulatory system. (3.3–3.11) **K/U**
- Explain how the musculoskeletal system carries out each of the following functions:
 - support
 - protection
 - movement (3.8) **K/U**
- Which of the following terms does not belong with the others? Explain your answer. esophagus, stomach, small intestine, lungs (3.3, 3.6) **K/U**

13. (a) What is a neuron?
 (b) How does the structure of a neuron help it to carry out its function? (3.10) **KOU**
14. Write a paragraph describing the passage of a slice of pizza through the digestive tract. (3.3) **KOU** **C**
15. Copy Table 1 into your notebook. Complete your table with information about each disease and the system or systems involved. (3.3, 3.4, 3.8, 3.10) **KOU**

Table 1 Diseases and Systems

Disease	Description of the disease	System(s) involved
osteoporosis		
diabetes		
coronary artery disease		
multiple sclerosis		

16. Explain how the structure of each blood vessel suits its function. (3.4) **TM**
- (a) arteries
 (b) veins
 (c) capillaries
17. Imagine that doctors identified a disease that causes the smooth muscles in the human body to stop working. What consequences would this disease have for the person suffering from it? (3.3, 3.4) **TM**
18. A person who takes many rapid, deep breaths may become dizzy. (3.4) **TM** **A**
- (a) What has happened to the balance of oxygen and carbon dioxide in the person's bloodstream?
 (b) Why is breathing into a paper bag sometimes recommended during a situation like this?
19. As you travel to higher altitudes, the concentration of gases in the air, including oxygen, decreases. (3.6, 3.10) **TM** **A**
- (a) What effect does this environment have on your breathing?
 (b) How might a runner who trained at sea level perform in a race taking place at 2 000 m above sea level? Explain.
20. Write a letter to a female friend about osteoporosis and its consequences. In the letter, explain how the proper diet and exercise regimen can help to prevent osteoporosis. (3.8) **C**
21. Surface area is a term used to describe how much exposed area an object has. (3.6) **TM**
- (a) In situations where materials need to be transported across surfaces, what is the advantage of having a large surface area for transport?
 (b) In the lining of the small intestine, there are thousands of little projections called microvilli that provide a large surface area for nutrients to diffuse into the bloodstream. Name another place in the body where increased surface area helps the transfer of materials.
22. Many hospitals have their own cord blood donation programs. When women give birth, they can choose to donate the cord blood to the hospital. The hospital stores the blood and keeps it available for patients needing transplants. Imagine that you are responsible for talking to pregnant women about this program. How could you convince them that it is a good idea? (3.2) **C**
23. (a) Describe how the muscle tissue and the nerve tissue work together to control the respiratory system.
 (b) What parts do connective tissues and epithelial tissues play in the respiratory system? (3.11) **TM**