Chapter Test A

Circulatory, Respiratory, and Excretory Systems

Part A: Multiple Choice

In the space at the left, write the letter of the phrase that best answers each question.

1. Which is the function of the circulatory system?
   A. get rid of excess blood, salt, and water
   B. maintain a low internal body temperature
   C. supply body cells with oxygen and food
   D. transport oxygen, nutrients, and wastes

2. Which is the function of the respiratory system?
   A. activate the body’s defenses against airborne pathogens
   B. regulate oxygen and carbon dioxide supplies in cells
   C. supply energy to maintain the metabolism of cells
   D. transport gases such as oxygen into the human body

3. Which is the function of the excretory system?
   A. maintain the correct amount of nutrients
   B. release energy from food as ATP molecules
   C. remove carbon dioxide, salts, and water
   D. transport carbon dioxide to body cells

Part B: Matching

Matching Set 1  Place a check in the correct box to identify the blood vessel each statement is describing. Answers may be used more than once.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Artery</th>
<th>Capillary</th>
<th>Vein</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Smallest type of blood vessel</td>
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<tr>
<td>2. Has a thick wall to withstand the higher pressure of blood being pumped from the heart</td>
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<td>3. Carries blood away from the heart</td>
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<td>4. Carries blood containing little oxygen</td>
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Matching Set 2  Write the letter of the correct term on the line next to its description. Answers may be used only once.

5. filters out waste, salt, and water from the blood  A. kidney

6. tube through which urine leaves the body          B. bladder

7. storage site for urine                           C. ureter
Chapter Test A CONTINUED

Part C: Interpreting Drawings

Use Figure 1 to respond to the following statement.

1. Study the drawing of the heart. Identify the left atrium, left ventricle, right atrium, and right ventricle on the drawing.
   A. 
   B. 
   C. 
   D. 

Use Figure 2 to respond to the following statement.

2. Study the drawing of the blood vessel. Identify the artery, vein, and capillary on the drawing.
   A. 
   B. 
   C. 

Part D: Short Answer

Write your response to each statement in the space provided.

1. Infer a health problem that could result in a person who has dysfunctional platelets in the blood.

2. Differentiate between the terms breathing, external respiration, and internal respiration.

3. Hypothesize the possible effects if the cilia in the nasal passages and respiratory tubes stopped functioning.
Chapter Test A CONTINUED

Part E: Concept Application

Write your response to each statement in the space provided.

1. An inactive adult has a resting pulse of 85 beats per minute. Infer the effect on her resting pulse after one year if she starts running 32 kilometers a week. Explain.

2. A patient being examined by a doctor is found to have a blood pressure of 155/90. Explain what this number means. Include the terms systolic pressure and diastolic pressure in your answer. Compare the patient’s blood pressure with the blood pressure of a healthy adult.

3. An accident patient is rushed to the emergency room of a hospital and needs blood. The patient is blood type B. List the blood types of possible donors for this patient.
Part A: Multiple Choice

In the space at the left, write the letter of the term or phrase that best completes each statement or answers each question.

1. Which is a function of the circulatory system?
   A. absorb energy from nutrients
   B. regulate body temperature
   C. transport salt out of the body
   D. transport waste products to body cells

2. Which blood component transports vitamins and minerals?
   A. plasma
   B. platelet
   C. red blood cell
   D. white blood cell

3. Which blood type donor can give blood to a patient with type O blood?
   A. A
   B. B
   C. O
   D. AB

4. When traveling through a normal respiratory system, a pollen grain should end up in the ______
   A. bronchi.
   B. epiglottis.
   C. throat.
   D. windpipe.

5. Which would result if a person's kidney stopped functioning?
   A. accumulation of toxins
   B. carbon dioxide buildup
   C. excess water loss
   D. reduced blood flow

6. Which would be the result of a blocked urethra?
   A. contracted heart
   B. enlarged bladder
   C. excess water loss
   D. toxin accumulation
Part B: Completion

Write the term or phrase that best completes each statement.

1. A cell fragment used to help form a blood clot is called a(n) ________________________.

2. A patient with high blood pressure who frequently consumes high-cholesterol foods might develop __________________________.

3. Oxygen being passed from the blood to a bicep muscle cell is an example of __________________________.

4. A small air sac on the tip of a bronchiole is called a(n) ________________________.

5. The filtering unit of the kidney is called a(n) __________________________.

6. A calcium solid found in a kidney is called a(n) __________________________.

Part C: Interpreting Drawings

Use Figure 1 to respond to the following statement.

1. Study the drawing of the heart. Identify the four chambers of the heart.
   A. __________________________
   B. __________________________
   C. __________________________
   D. __________________________

Use Figure 2 to respond to the following statement.

2. Explain Study the drawing of the blood vessel. Identify parts of the blood vessel, and explain the function of each part.
   A. __________________________
   __________________________
   __________________________
   B. __________________________
   __________________________
   __________________________
   C. __________________________
   __________________________
Chapter Test B CONTINUED

Part D: Short Answer

Write your response to each statement in the space provided.

1. Differentiate between systole and diastole. Explain how the terms relate to the measurement of blood pressure.

2. Identify the three sources of water loss in the human body. Formulate strategies athletes can use to reduce water loss and to replace water that is lost from the body.

Part E: Concept Application

Write your response to each statement in the space provided.

1. A patient comes to an emergency room and a blood test reveals that both his red and white blood cell counts are low. Hypothesize an effect from a low white blood cell count and an effect from a low red blood cell count.

2. A doctor examines a patient, who is having difficulties breathing. The doctor concludes that the patient has a bacterial infection in one bronchus. Identify the respiratory disorder the doctor diagnoses. Summarize the patient’s symptoms.

3. Drinking alcoholic beverages will cause the pores in the tubules of the excretory system to shrink or possibly close. Infer how drinking excess alcohol will affect the amount of water in the body.
Part A: Multiple Choice

In the space at the left, write the letter of the term, phrase, or number that best completes each statement or answers each question.

1. Which is the function of the circulatory system?
   A. creation of vital organic compounds from oxygen and nutrients
   B. excretion of toxic substances, excess water, and carbon dioxide
   C. regulation of hormone, gas, and nutrient levels in the bloodstream
   D. transportation of vital materials such as oxygen throughout the body

2. Which is a normal blood pressure for a healthy adult?
   A. 108/65
   B. 113/77
   C. 141/88
   D. 162/91

3. Which patient can receive blood from a donor with a B/Rh-positive blood type?
   A. AB/Rh negative
   B. AB/Rh positive
   C. O/Rh negative
   D. O/Rh positive

4. Which is the mechanical act of taking air into the lungs?
   A. inhalation
   B. inspiration
   C. internal respiration
   D. external respiration

5. Which is the number of liters of blood filtered by the kidneys each day?
   A. 5
   B. 30
   C. 180
   D. 360

6. The kidneys help maintain the homeostasis of the body by ______
   A. absorbing excess calcium from blood and bone marrow.
   B. adjusting the levels of oxygen and carbon dioxide in tissues.
   C. excreting ammonia into the body to decrease acid levels.
   D. maintaining a narrow temperature range for body systems.
Chapter Test C CONTINUED

Part B: Completion

Write the term or phrase that best completes each statement.

1. A blood vessel with a wall only one cell thick is called a(n) ______________________.
2. A diet high in fatty foods can lead to the condition known as ______________________.
3. The air pollutant carbon monoxide being inhaled into the lungs and entering the blood is an example of ______________________.
4. The filtering unit of the kidney is called a(n) ______________________.
5. Potassium is placed back into the bloodstream by the excretory system through a process called ______________________.
6. A crystallized solid lodged in a kidney is called a(n) ______________________.

Part C: Interpreting Drawings

Use Figure 1 to respond to the following statement.

1. Study the drawing of the heart. Identify the parts of the heart.

A. ______________________
B. ______________________
C. ______________________
D. ______________________
E. ______________________
F. ______________________
G. ______________________

Use Figure 2 to respond to the following statement.

2. Study the drawing of the blood vessel. Identify the parts of the blood vessel.

A. ______________________
B. ______________________
C. ______________________
Chapter Test C CONTINUED

Part D: Short Answer

Write your response to each statement in the space provided.

1. Describe the path a red blood cell takes on one complete loop through the human circulatory system beginning as it enters the heart.

2. Contrast white blood cells and red blood cells.

3. Explain the path an oxygen molecule takes from the atmosphere to a red blood cell.

Part E: Concept Application

Write your response to each statement in the space provided.

1. A doctor examines a patient who is having difficulties breathing. The doctor determines that the patient’s alveoli are not functioning properly. Infer the possible respiratory disorders afflicting the patient. Describe each disorder.

2. A soccer player can run several miles during a match. Explain how the excretory system rids the player’s body of wastes while the player is competing in a soccer match.