

**SBI3U Unit 4 Test: Animals – Structure & Function  
(50 Marks Total)**

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

**Marks obtained:**

Category	Total Marks	Possible Marks
Knowledge/Understanding (K/U)		<b>10</b>
Thinking/Investigation (T/I)		<b>6</b>
Communication (C)		<b>11</b>
Application (A)		<b>27</b>
Total		<b>54</b>
Percentage		

**SECTION 1: Knowledge/Understanding - Multiple Choice (Questions 1-10)***[K/U, 10: 1 each]***Write your section 1 answers here:**

Question	1	2	3	4	5	6	7	8	9	10
Answer										

K/U	T/I	A	C
/10			

**\*\*NOTE: FOR SECTIONS 1 WRITE YOUR ANSWERS IN THE TABLES ON THE FIRST PAGE OF THIS TEST\*\***

**SECTION 1: Knowledge/Understanding - Multiple Choice (Questions 1-10)***[K/U, 10: 1 each]*

1. What part of the digestive system has secretions with a pH as low as 2?  

a) small intestine	c) pancreas	e) mouth
b) stomach	d) liver	
  
2. Which is the correct order of the four main stages of food processing?  

a) ingestion → digestion → absorption → elimination
b) digestion → ingestion → absorption → elimination
c) absorption → elimination → ingestion → digestion
d) elimination → ingestion → digestion → absorption
e) ingestion → elimination → absorption → digestion
  
3. Which is an example of mechanical digestion?  

a) digestion of sugars in the small intestine
b) bile salts combining with fat droplets
c) bile production by the liver
d) chewing food in the mouth
e) proteins that transport ions in cell membranes
  
4. The throat is part of the neck that lies in front of the vertebral column. It is a common passageway for air, food, and water. What is another term for this common passageway?  

a) larynx	d) esophagus
b) epiglottis	e) glottis
c) pharynx	

5. Most oxygen is carried by the blood \_\_\_\_\_. Most carbon dioxide is transported by the blood \_\_\_\_\_.
- a) bound to hemoglobin, bound to protein
  - b) dissolved in plasma, dissolved in plasma
  - c) bound to hemoglobin, dissolved in blood fluids
  - d) dissolved in plasma, bound to hemoglobin
  - e) bound to hemoglobin, bound to hemoglobin
6. Complete the following statement by choosing the correct pair of terms below. During internal respiration, oxygen diffuses from \_\_\_\_\_ the into the \_\_\_\_\_.
- a) oxygen-rich tissues, blood
  - b) blood, oxygen-poor tissues
  - c) oxygen-poor tissues, blood
  - d) air, oxygen-poor tissues
  - e) air, oxygen-rich tissues
7. Which of the following helps in the transportation of oxygen in humans?
- a) hemoglobin
  - b) melanin
  - c) keratin
  - d) urea
  - e) bicarbonate ion
8. Which of the following statements is true?
- a. Both arteries and veins have a layer of smooth muscle.
  - b. Both arteries and veins branch out into capillary beds.
  - c. Precapillary sphincters regulate blood flow through capillaries.
  - d. Veins have one-way valves to prevent backflow of blood
  - e. All of the above are true
9. The primary function of the large intestine is to concentrate wastes into solid form (feces) for release from the body. It does this by:
- a. adding additional cells from the mucosal layer
  - b. absorbing water
  - c. releasing salt
  - d. pushing the solid wastes along by means of the pyloric sphincter
  - e. All of the above are true.

10. During respiration, most carbon dioxide is:

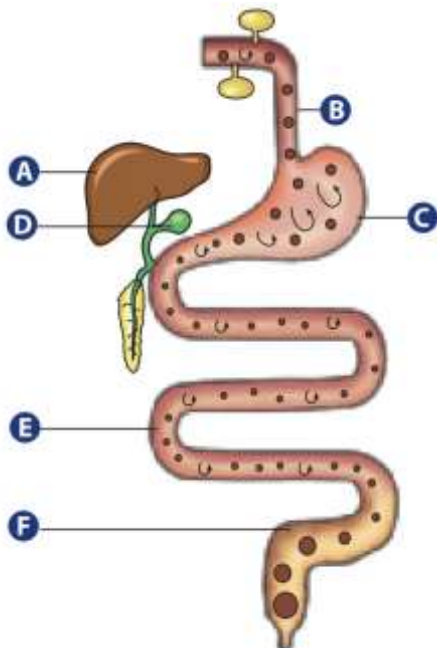
- a) bound to oxygen
- b) used during cellular respiration
- c) bound to hemoglobin
- d) stored in the lungs prior to exhalation
- e) carried in the blood fluids

**SECTION 2: Application – Labeling (Questions 11-12)**

**[A, 18: 2 each]**

11. Label each of the following organs.

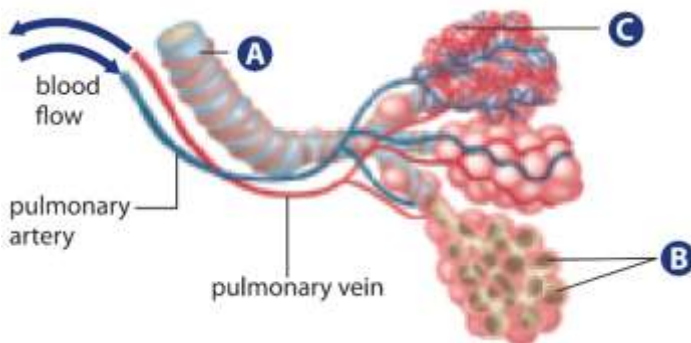
**[A, 12]**



- A \_\_\_\_\_
- B \_\_\_\_\_
- C \_\_\_\_\_
- D \_\_\_\_\_
- E \_\_\_\_\_
- F \_\_\_\_\_

12. Label the following organs.

**[A, 6]**



- A \_\_\_\_\_
- B \_\_\_\_\_
- C \_\_\_\_\_

K/U	T/I	A	C
		/18	

**SECTION 3: Thinking/Investigation, Application & Communication – Short Answer**

**(Questions 13-20)**

***[T/I, 6; A, 9; C, 11]***

13. You are watching a television program in which a doctor must perform an emergency procedure on a patient who has stopped breathing. The doctor inserts a sterile plastic tube into the patient's throat.

a. What structure in the throat is the doctor likely targeting? *[A, 1]*

b. Infer how this procedure will help the patient *[A, 3]*

14. A patient has loose and bloody stools, cramps, and abdominal pain. Make a possible diagnosis.

*[A, 2]*

15. Food is able to propel down the esophagus when a person is hanging upside down. Identify and explain the process that allow this to happen.

*[T/I, 2]*

K/U	T/I	A	C
	/2	/6	

16. What are the connections between regulation of heart rate and breathing rate?

[T/I, 2]

17. Use a diagram to describe the flow of blood through the heart. Label each compartment and valve of the heart.

[C, 5]

K/U	T/I	A	C
	/2		/5

18. Sketch diagrams of cross sections of healthy arteries, veins, and capillaries. Compare these cross sections with those of diseased blood vessels. [C, 6; 2 each]

19. How would having the gall bladder removed affect a person's health and diet?

[A, 3]

20. Diseases such as pancreatic cancer and human immunodeficiency virus (HIV) can interfere with the healthy functioning of the pancreas. What would happen to the digestion of carbohydrates, proteins, and fats when the pancreas is dysfunctional?

[T/I, 2]

K/U	T/I	A	C
	/2	/3	/6