

## **Anatomy & Physiology of Domesticated Animals — Exam 3**

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### **Section I – True/False (Explain if False)**

- \_\_\_\_\_ The pulmonary circulation moves blood between the heart and lungs.
- \_\_\_\_\_ The left ventricle has thinner walls than the right ventricle
- \_\_\_\_\_ The tricuspid valve is located between the left atrium and left ventricle.
- \_\_\_\_\_ The respiratory system's main function is to exchange oxygen and carbon dioxide. **T**
- \_\_\_\_\_ Veins always carry deoxygenated blood.
- \_\_\_\_\_ Hemoglobin is found in plasma.
- \_\_\_\_\_ The diaphragm and intercostal muscles assist in breathing.
- \_\_\_\_\_ The systemic circulation transports oxygen-rich blood from the heart to the body's tissues.
- \_\_\_\_\_ Internal respiration occurs between the lungs and blood.
- \_\_\_\_\_ The myocardium is the muscular layer responsible for heart contraction.

### **Section II – Multiple Choice**

1. Which valves prevent backflow from the arteries into the ventricles?
  - a) AV valves
  - b) Pulmonary and aortic valves
  - c) Mitral and tricuspid valves
  - d) Semilunar and mitral valves

2. Which blood vessel type carries blood under the highest pressure?
  - a) Veins
  - b) Capillaries
  - c) Arteries
  - d) Venules
  
3. Which structure prevents friction and heat buildup around the heart?
  - a) Endocardium
  - b) Myocardium
  - c) Serous pericardium
  - d) Epicardium
  
4. What is the main function of hemoglobin?
  - a) Transports oxygen and carbon dioxide
  - b) Regulates body temperature
  - c) Stimulates red blood cell formation
  - d) Stores iron in the spleen
  
5. Which law states that gas pressure and volume are inversely related?
  - a) Bohr Effect
  - b) Boyle's Law
  - c) Henry's Law
  - d) Dalton's Law
  
6. Which type of immune cell is the first line of defense and results in pus?
  - a) Basophil
  - b) Neutrophil
  - c) Eosinophil
  - d) Monocyte
  
7. Which cell type releases histamine and heparin?
  - a) Lymphocyte
  - b) Monocyte
  - c) Basophil

d) Eosinophil

8. Which organ is the site of red blood cell formation?
- a) Liver
  - b) Thymus
  - c) Red bone marrow
  - d) Spleen
9. Which of the following is the correct order of airflow?
- a) Trachea → Bronchi → Bronchioles → Alveoli
  - b) Alveoli → Bronchi → Trachea → Pharynx
  - c) Bronchi → Alveoli → Trachea → Bronchioles
  - d) Larynx → Pharynx → Trachea → Lungs
10. Which immune cell type produces antibodies?
- a) B cells
  - b) T cells
  - c) Monocytes
  - d) Neutrophils

### **Section III – Matching**

Match the term with its correct function or description:

- A. Veins
- B. Arteries
- C. Capillaries
- D. Neutrophil
- E. Basophil
- F. Eosinophil
- G. Monocyte
- H. Lymphocyte



4. What are the three ways CO<sub>2</sub> is transported in blood?

5. List the parts of the upper and lower respiratory tract.

### **Section V – Extended Response**

1. **Describe the process of erythropoiesis to lysis and removal.**

2. **Discuss the process of blood clotting.**

3. **Explain how blood maintains pH.**

**4. Describe gas exchange in alveolar sacs.**

**5. List and describe different breathing patterns.**

## Section VI – Gas Laws

### **1. Boyle's Law**

## **2. Henry's Law**

## **3. Dalton's Law**

## **4. Bohr Effect**

**Section VII – Names all the Blood and Lymphatic Cells with their function**