

Module 14: Cardiovascular System — Study Questions

Cardiovascular System Overview

1. What are the main components of the cardiovascular system?
2. What are the primary functions of the cardiovascular system?
3. What does it mean for humans to have a "closed" circulatory system?
4. What is the difference between systemic circulation and pulmonary circulation?
5. Why does the body need a circulatory system?

Heart Anatomy

1. Name the four chambers of the heart.
2. Which side of the heart pumps blood to the lungs? Which side pumps blood to the body?
3. What are the names of the four valves in the heart, and what prevents backflow of blood?
4. Trace the path of blood through the heart, starting from the right atrium.
5. What is the coronary circulation, and why is it important?
6. What are the three layers of the heart wall?
7. Why is the left ventricle wall thicker than the right ventricle wall?

Cardiac Cycle

1. What is the cardiac cycle?

2. What happens during systole? What happens during diastole?
3. What causes the "lub-dub" heart sounds?
4. What is cardiac output, and how is it calculated?
5. What factors can increase or decrease cardiac output?

Electrical Conduction

1. What is the SA node, and why is it called the "pacemaker" of the heart?
2. Describe the path of electrical impulses through the heart.
3. What is the role of the AV node?
4. How do Purkinje fibers contribute to heart contraction?
5. What does an electrocardiogram (ECG/EKG) measure?
6. How does the autonomic nervous system influence heart rate?

Blood Vessels

1. What are the three main types of blood vessels?
2. Why do arteries have thicker walls than veins?
3. What structural feature helps veins return blood to the heart?
4. Why are capillaries important for nutrient and gas exchange?
5. How does blood move from arteries to veins in the circulatory path?
6. What is blood pressure, and how is it measured?
7. What do the systolic and diastolic numbers in a blood pressure reading represent?

Blood Composition and Health

1. What are the main components of blood?
2. What is the function of red blood cells?
3. What role do white blood cells play in the body?
4. What is plasma, and what does it contain?
5. What is the function of platelets?
6. What are some risk factors for cardiovascular disease?
7. How can lifestyle choices affect cardiovascular health?