

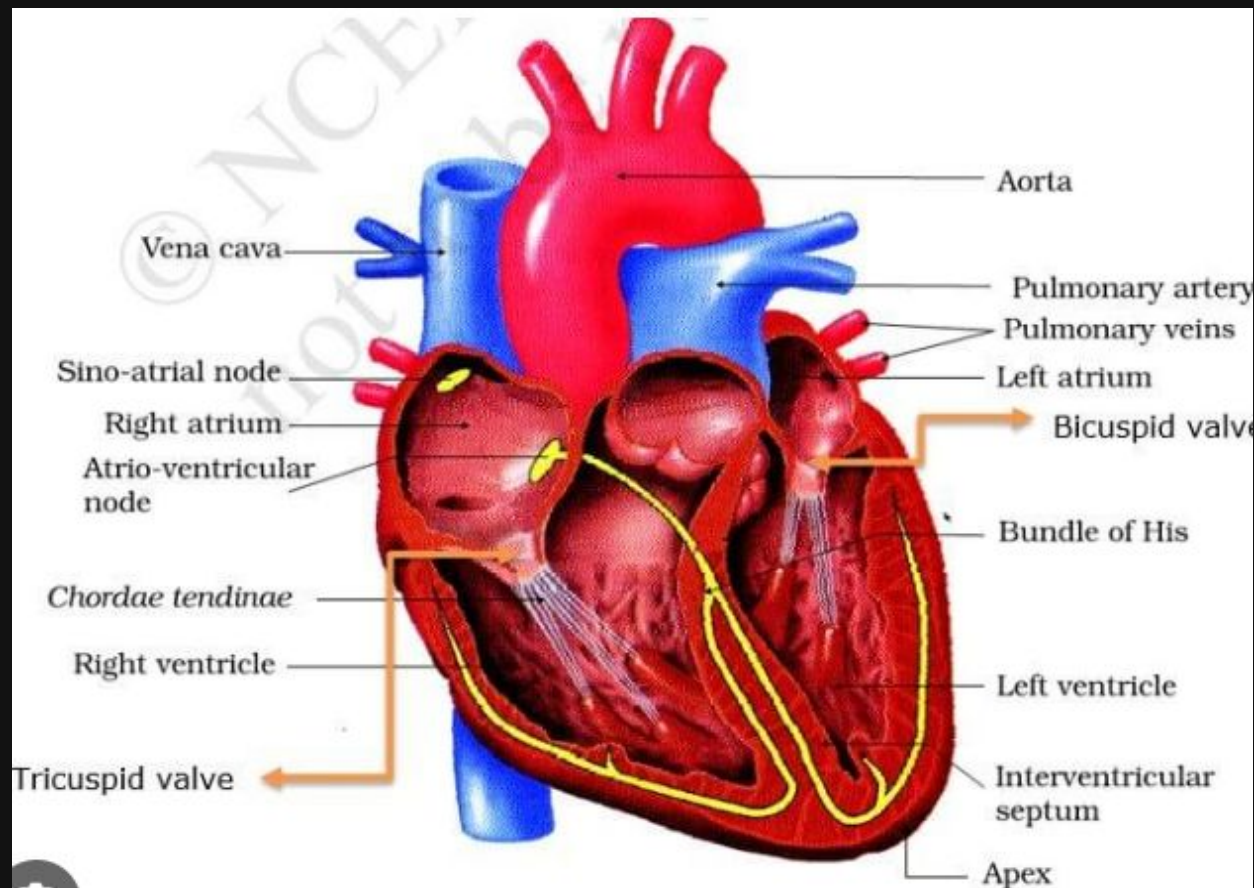


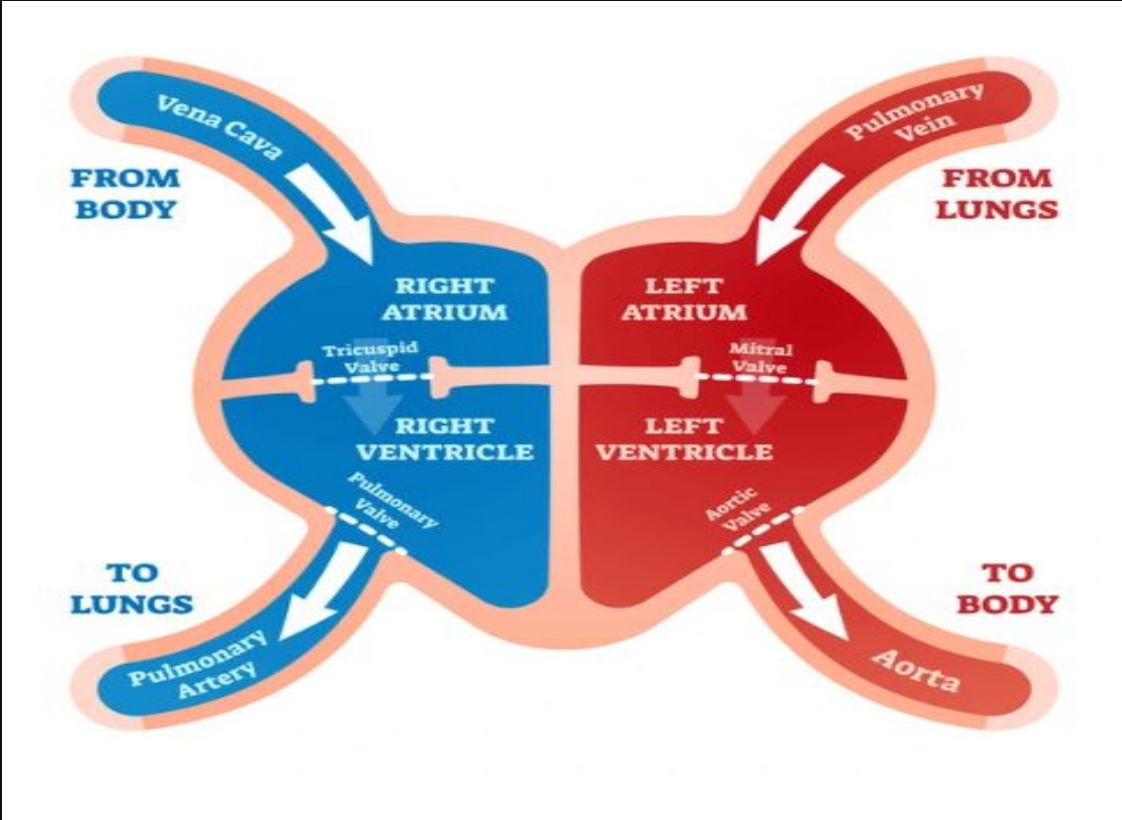
DOUBLE CIRCULATION

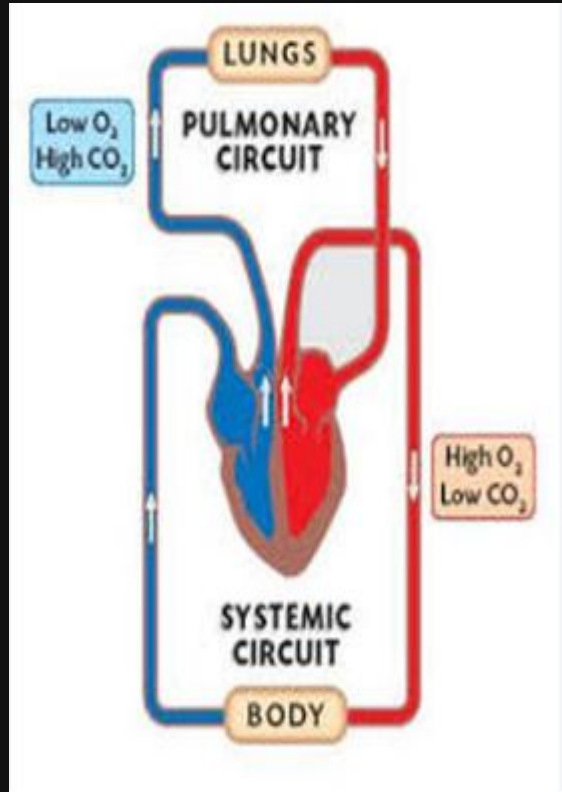
ARYA ARUN

DOUBLE CIRCULATION

- **Double circulation refers to the circulatory system in which blood passes through the heart twice during one complete cycle of the body.**







- **Blood flows through two divisions of circulatory system:**
 - 1. Systemic circulation**
 - 2. Pulmonary circulation.**

SYSTEMIC CIRCULATION

- **Systemic Circulation is the part of the circulatory system responsible for transporting oxygen-rich blood from the heart to the rest of the body and returning oxygen-depleted blood back to the heart.**
- **It is also referred to as **greater circulation** due to its extensive network of blood vessels covering the entire body.**

Pathway of Systemic Circulation

Starts at the Left Ventricle

- The heart pumps oxygenated blood from the left ventricle into the aorta.



Arterial System

- The blood flows through a network of arteries, arterioles, and capillaries to reach all tissues and organs.





Exchange at Capillaries

- **At the capillaries, oxygen and nutrients in the blood are delivered to the tissues.**

Simultaneously, waste products like carbon dioxide are absorbed into the blood.

Venous System



After the exchange, the deoxygenated blood flows into veins, starting with venules and merging into larger veins.

Returns to the Right Atrium





Finally, the blood is collected by the superior and inferior vena cava and returned to the right atrium of the heart.

Systemic circulation = L.V TO R.A

1. What is systemic circulation also known as?

- a) Lesser circulation
- b) Greater circulation
- c) Pulmonary circulation
- d) Cardiopulmonary circulation

Answer: b) Greater circulation



3. What is the main function of systemic circulation?

- a) To exchange oxygen and carbon dioxide in the lungs
- b) To supply oxygenated blood to tissues and remove waste
- c) To transport blood from the heart to the lungs
- d) To pump deoxygenated blood into the pulmonary veins

Answer: b) To supply oxygenated blood to tissues and remove waste



6. Where does the deoxygenated blood enter after returning to the heart in systemic circulation?

- a) Left atrium
- b) Left ventricle
- c) Right atrium
- d) Right ventricle

Answer: c) Right atrium

PULMONARY CIRCULATION

- Pulmonary circulation, also called **lesser circulation**, refers to the movement of blood between the heart and the lungs for the purpose of gas exchange.
- It is responsible for oxygenating the blood and removing carbon dioxide.

Deoxygenated Blood from the Heart to the Lungs



Gas Exchange in the Lungs:



Oxygenated Blood Returns to the L.A Heart

Pulmonary circulation = R.V to L.A

1. What is pulmonary circulation also known as?

- a) Greater circulation
- b) Lesser circulation
- c) Systemic circulation
- d) Coronary circulation

Answer: b) Lesser circulation



4. After gas exchange, oxygenated blood returns to the heart through which blood vessel?

- a) Pulmonary veins
- b) Pulmonary artery
- c) Aorta
- d) Superior vena cava

Answer: a) Pulmonary veins

- **left side of the heart contains oxygenated or arterial blood and the right side of the heart contains deoxygenated or venous blood**

5. Which side of the heart contains oxygenated blood?

- a) Right side
- b) Left side
- c) Both sides
- d) Neither side

Answer: b) Left side

6. Which side of the heart contains deoxygenated blood?

- a) Left side
- b) Right side
- c) Both sides
- d) Neither side

Answer: b) Right side



THANK YOU