

HUMAN ANATOMY AND PHYSIOLOGY-I, BP-101(T)
UNIT-V (Cardiovascular system)

CLASS:5

TOPIC – Heart beat, its regulation by autonomic nervous system,
cardiac output

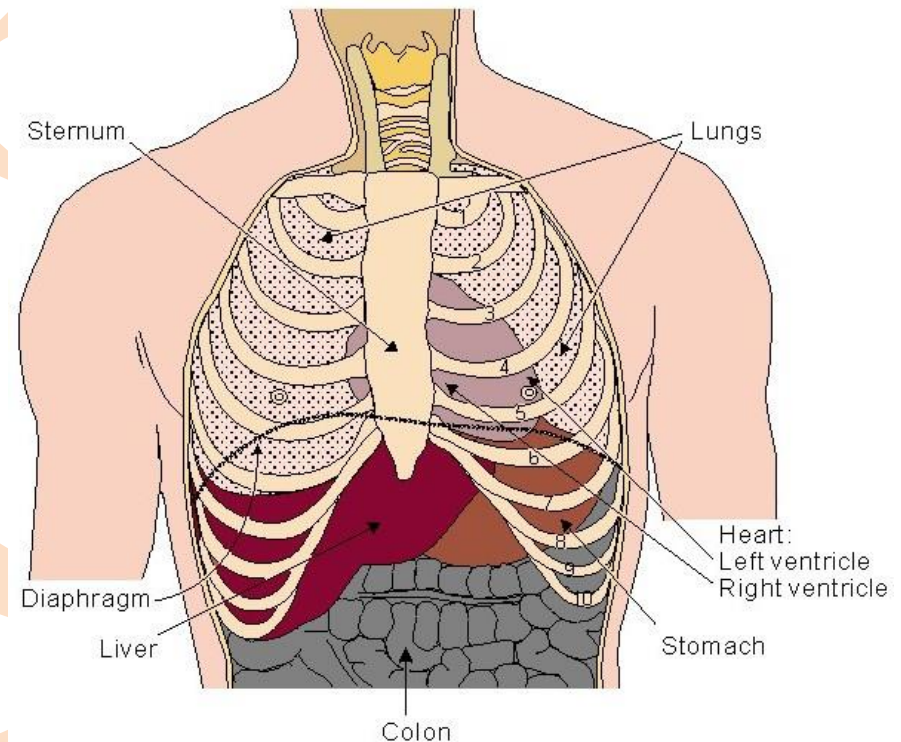
Introduction

- The cardiovascular system (cardio means- heart, vascular means – blood vessels).
- The cardiovascular system consists of heart and blood vessels.
- It is mainly a transport system.
- It transports respiratory gases, nutrients and excretory products to various parts of the body.
- Blood is the medium through which these substances are transported.



Anatomy of the Heart

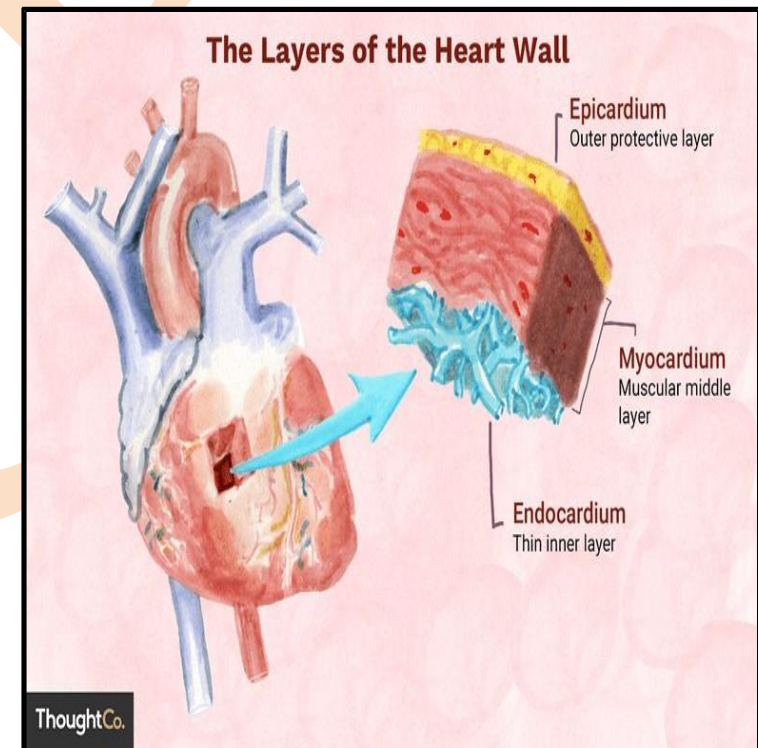
- Heart is a conical, hollow, muscular organ.
- It lies in the thorax between the lungs and behind the sternum.
- It is about 10 cm long and weighs about 225 g in women and is heavier in men (about 310 g).



Blood is carried from the heart to the rest of the body through a complex network of arteries, arterioles and capillaries. Blood is returned to the heart through venules and veins.

Layers of the Heart

- Heart is surrounded by an outer covering called **pericardium**. It contains two layers called-
 - visceral pericardium
 - parietal pericardium
- The middle layer is made of heart muscle fibers. It is called as **myocardium**.
- The inner lining is called as **endocardium**.



Chambers of the Heart

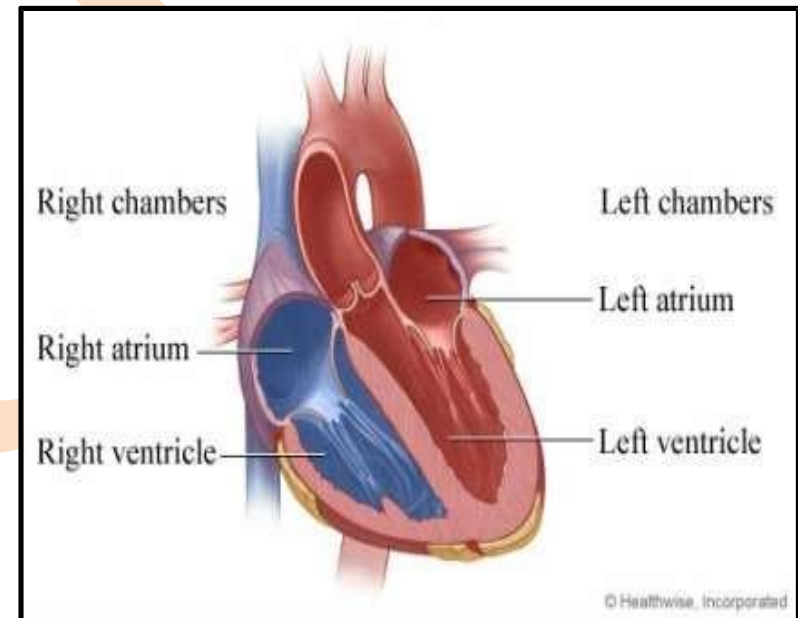
Heart is made of four chambers.

The two chambers on the right side are known as-

- Right atrium
- Right ventricle

The chambers on the left side are known as-

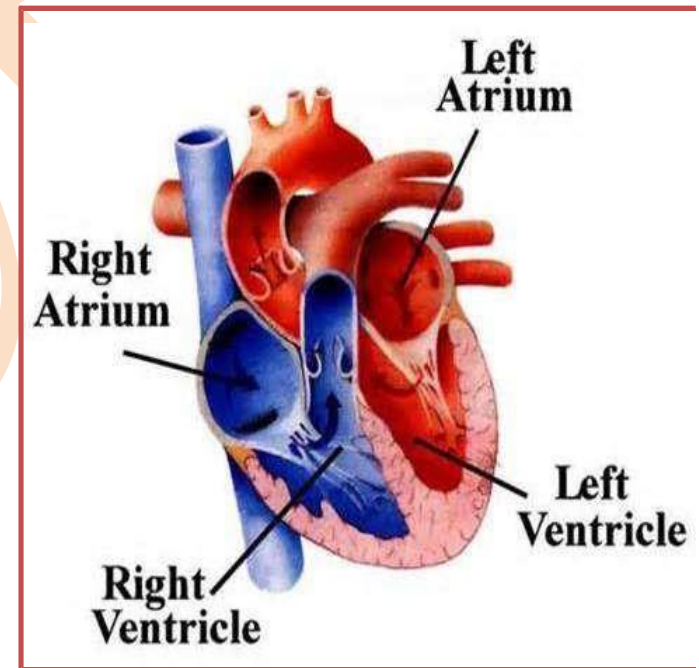
- Left atrium
- Left ventricle



Upper chambers

The upper chambers are:

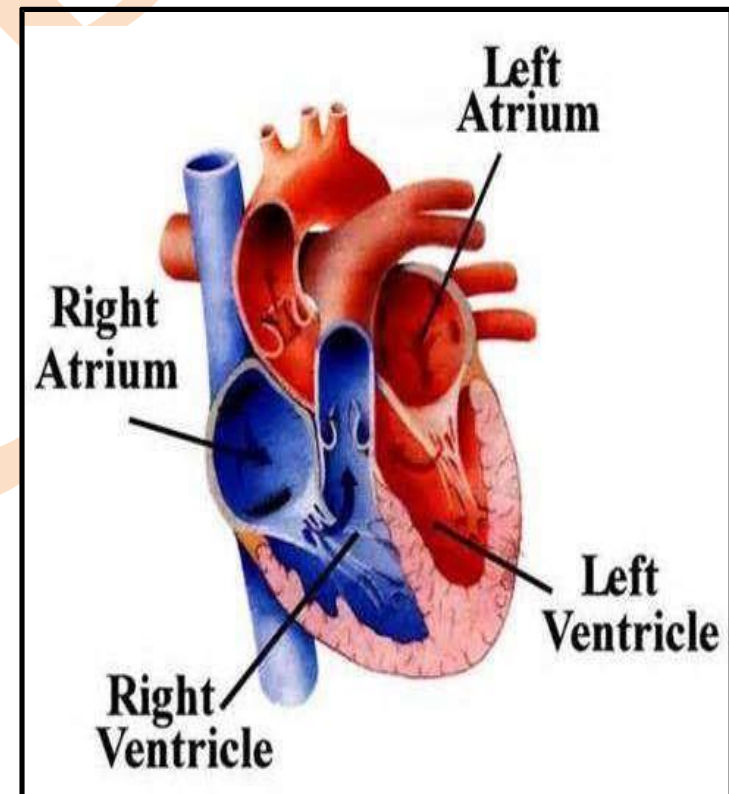
- The atria
 - Right
 - Left
- **The right atrium:** Receives deoxygenated blood from the body through the:
 - Superior vena cava (head and upper body)
 - Inferior vena cava (legs and lower torso)
- **The left atrium:** Receives oxygenated blood from the lungs through the:
 - Pulmonary vein



Lower chambers

The lower chambers are:

- The ventricle
 - Right
 - Left
- **The right ventricle:** Receives de-oxygenated blood as the right atrium contracts.
- **The left ventricle:** Receives oxygenated blood as the left atrium contracts.



IMPORTANT QUESTIONS:

2M QUESTIONS:

- 1) Define Heart and its functions.
- 2) Define ECG.
- 3) Define Cardiac Output.

5M QUESTIONS:

- 1) Explain the physiology and anatomy of heart.
- 2) Explain in details about blood circulation of heart with the help of diagram and conduction system of heart

10M QUESTIONS:

- 1) Explain the physiology and anatomy of heart.
- 2) Explain in details about blood circulation of heart with the help of diagram and conduction system of heart