



SNS COLLEGE OF NURSING

SARAVANAMPATTI, COIMBATORE-35

COURSE NAME : BSC (NURSING) I YEAR

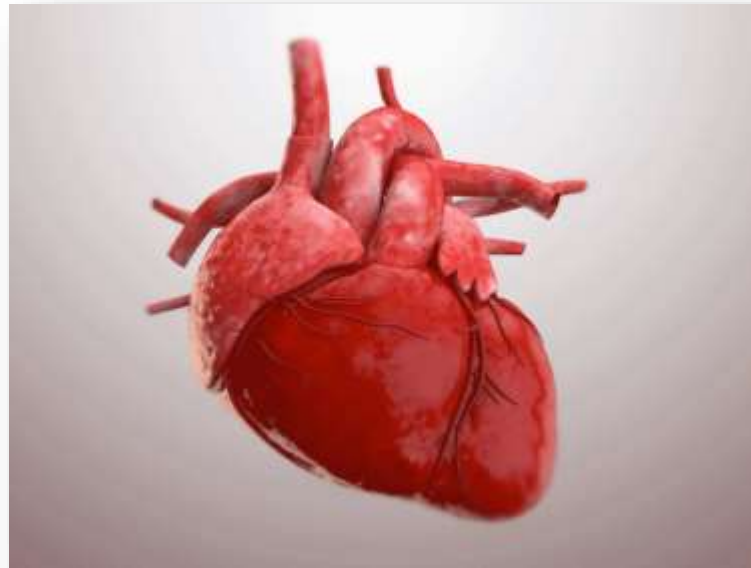
SUBJECT : ANATOMY

UNIT IV: CIRCULATORY SYSTEM

TOPIC : STRUCTURE OF THE HEART



INTRODUCTION – THE HEART

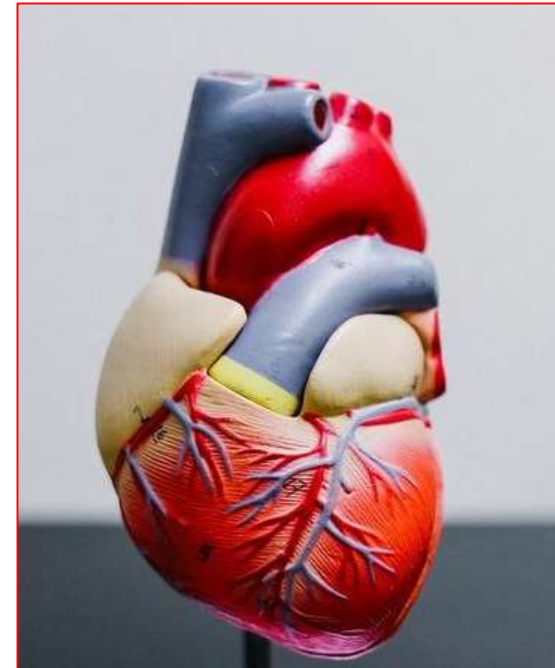
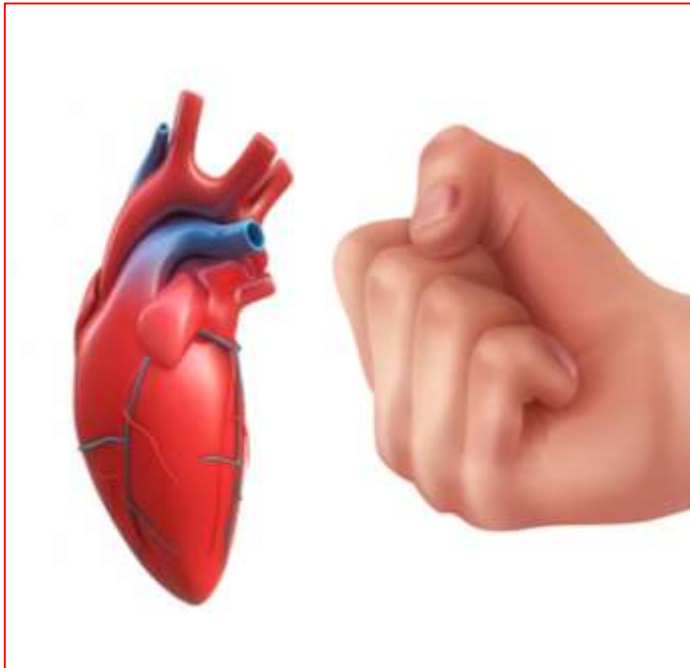




INTRODUCTION



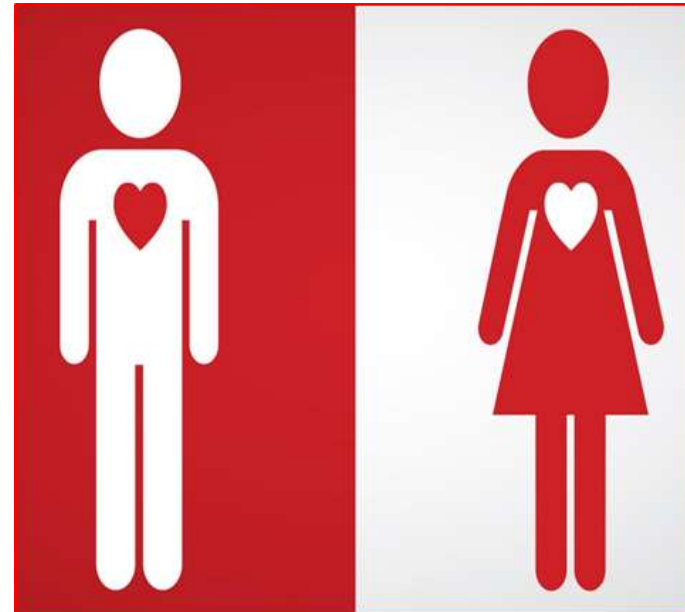
SIGNIFICANCE OF THE ORGAN



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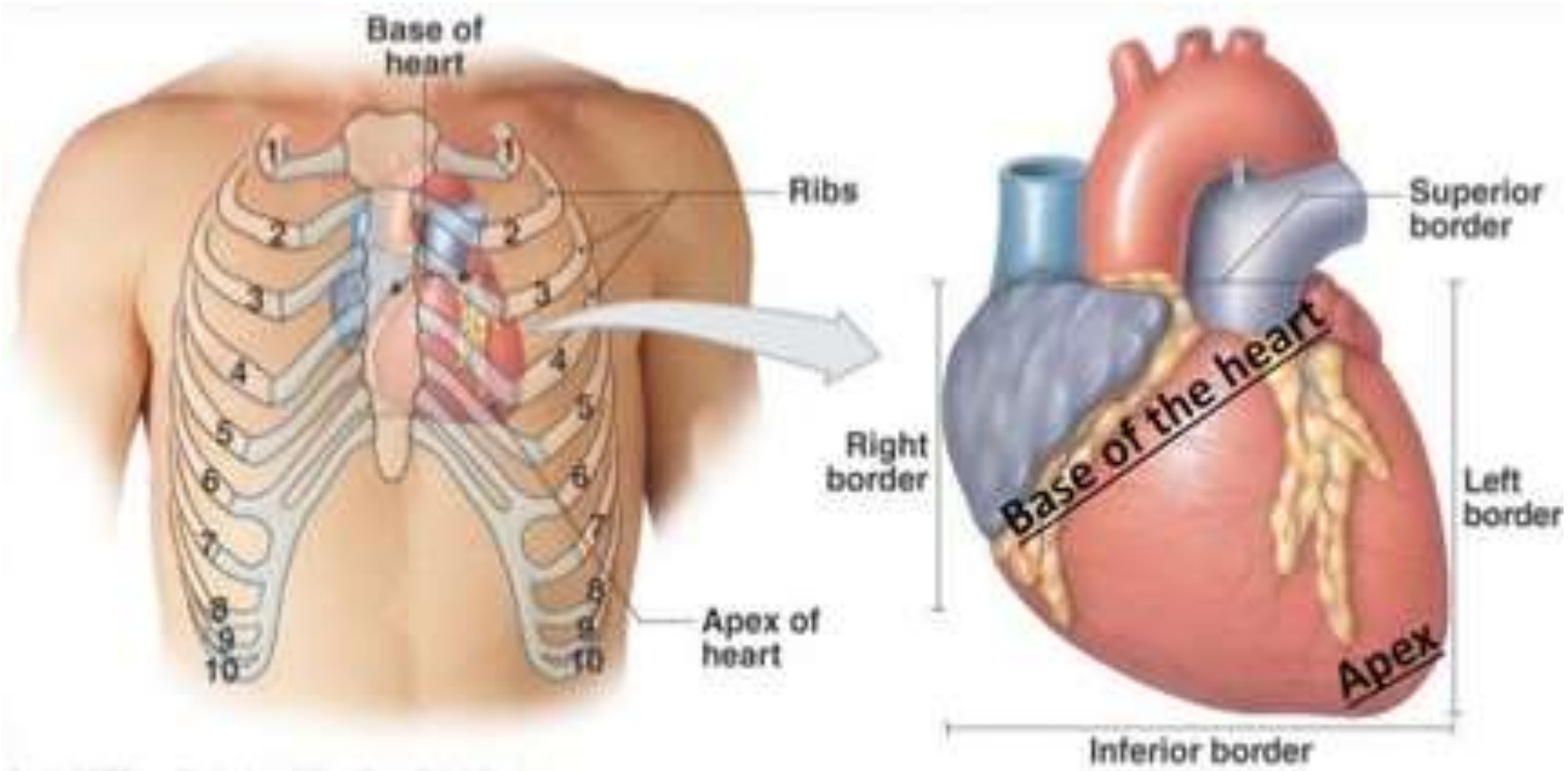
**Let's Walk
Together
1286 Steps**

**LENGTH- 12 CMS
WIDTH- 8 CMS
THICKNESS - 6 CMS**



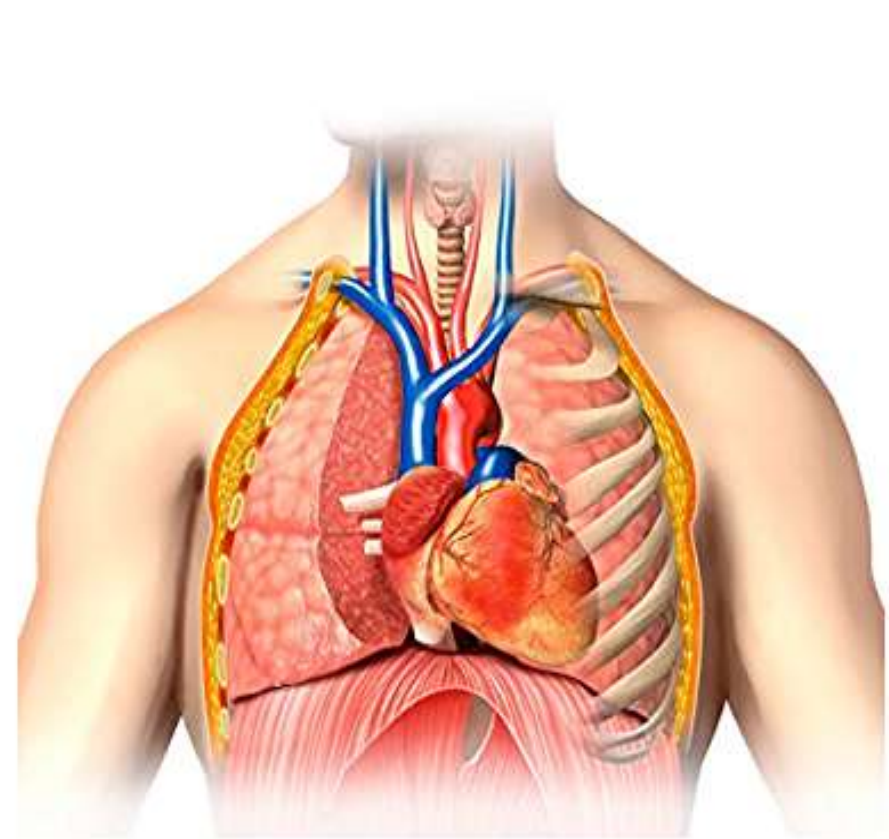
- **280-340 g in males**
- **230-280 g in females**

HEART IN THE THORAX



ANATOMICAL POSITION

- **SUPERIOR**- Great Vessels
- **INFERIOR**- Diaphragm
- **ANTERIOR** – Sternum, Rib Cage
- **POSTERIOR**- Esophagus
- **LATERAL** – Both Lungs
- **PRECORDIAL REGION**

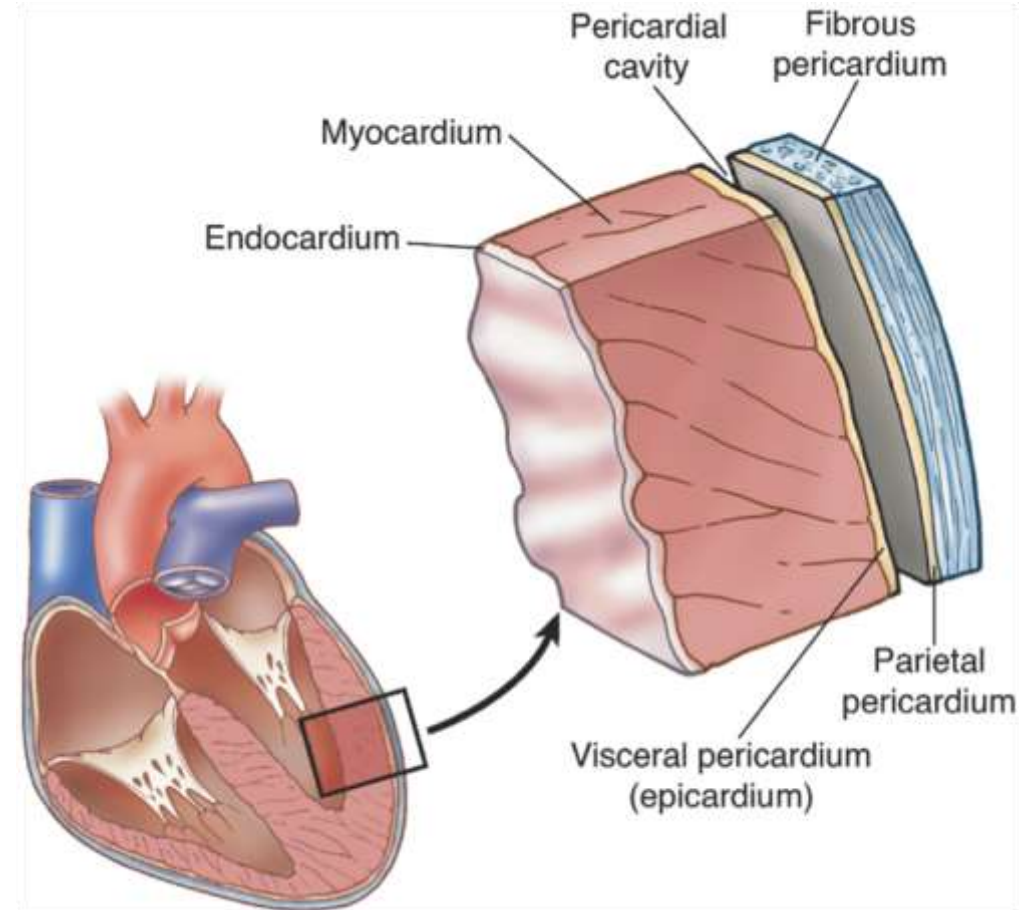


MAGNIFICIENT CREATION !!!



LAYERS OF THE HEART

- **Epicardium** - Outermost layer
- **Myocardium** – Middle layer
- **Endocardium** - Innermost layer
- Chordae Tendinae
- **Pericardium.- Three Layers**
- Visceral -Epicardium
- Parietal
- Fibrous
- **Pericardial cavity-Pericardial fluid**



TRY- OUT

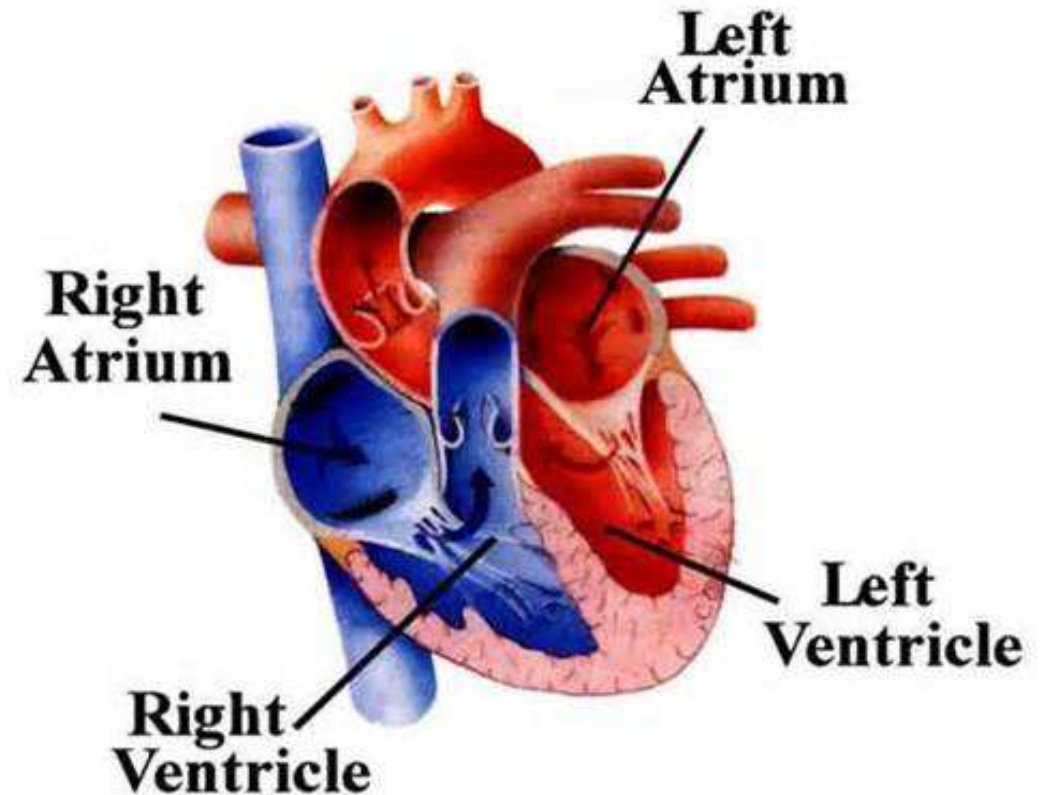


1. The organ lying inferior to the heart is _____

2. The chordae tendinae is present in the _____ layer.

CHAMBERS OF THE HEART

- Two upper and two lower chambers.
- **Upper chambers- the right and left atria .**
- **Lower chambers - the right and left ventricles**
- Septum
- **Inter Atrial Septum**
- **Inter Ventricular Septum**



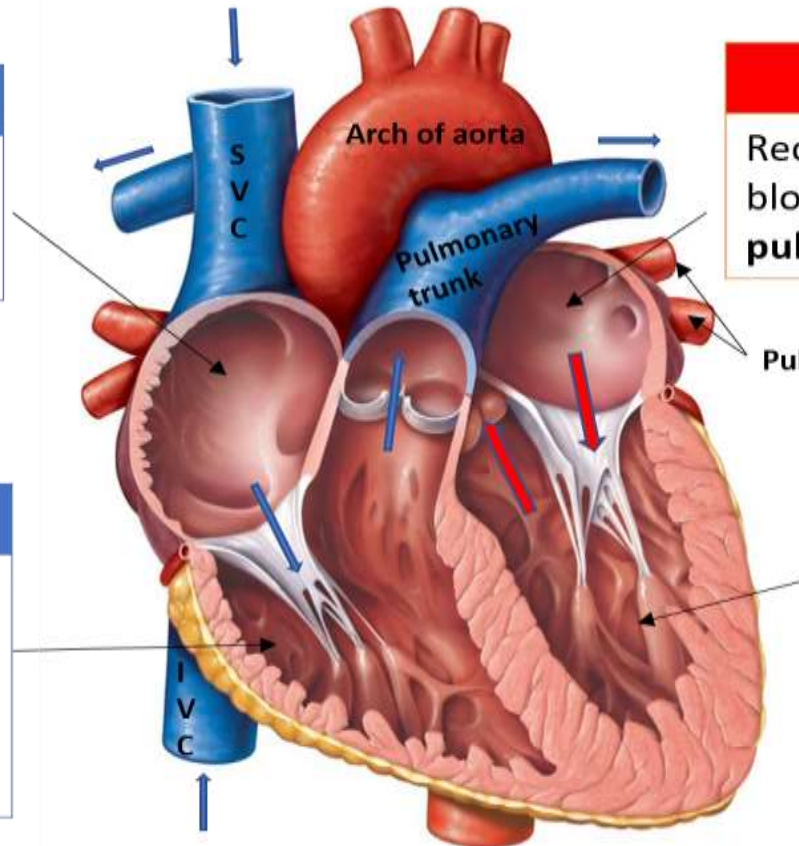
CHAMBERS OF THE HEART

RIGHT ATRIUM

Receives deoxygenated blood from the body via **SVC, IVC** and **coronary sinus**

RIGHT VENTRICLE

Receives deoxygenated blood from right atrium via **Right atrioventricular orifice** and sends it to lungs via **Pulmonary trunk**.



LEFT ATRIUM

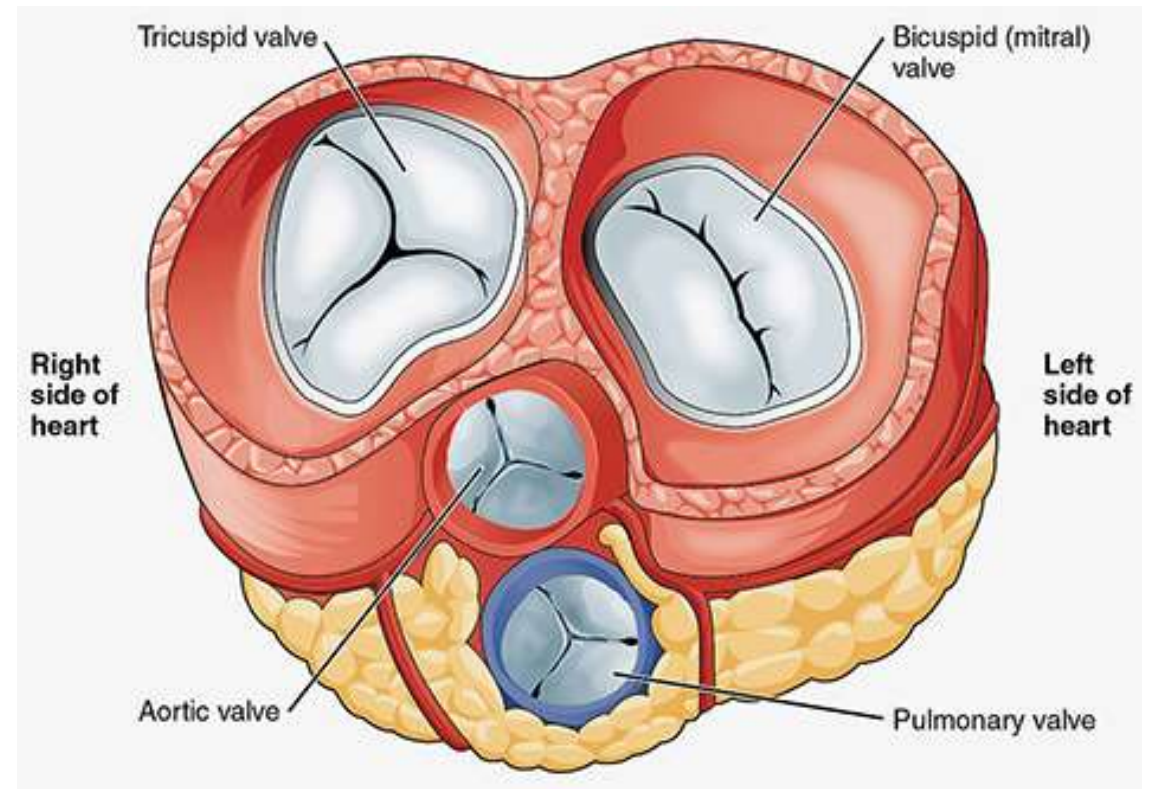
Receives oxygenated blood from the lungs via **pulmonary veins**.

LEFT VENTRICLE

Receives oxygenated blood from left atrium via **Left atrioventricular orifice** and sends it to body via **aorta**.

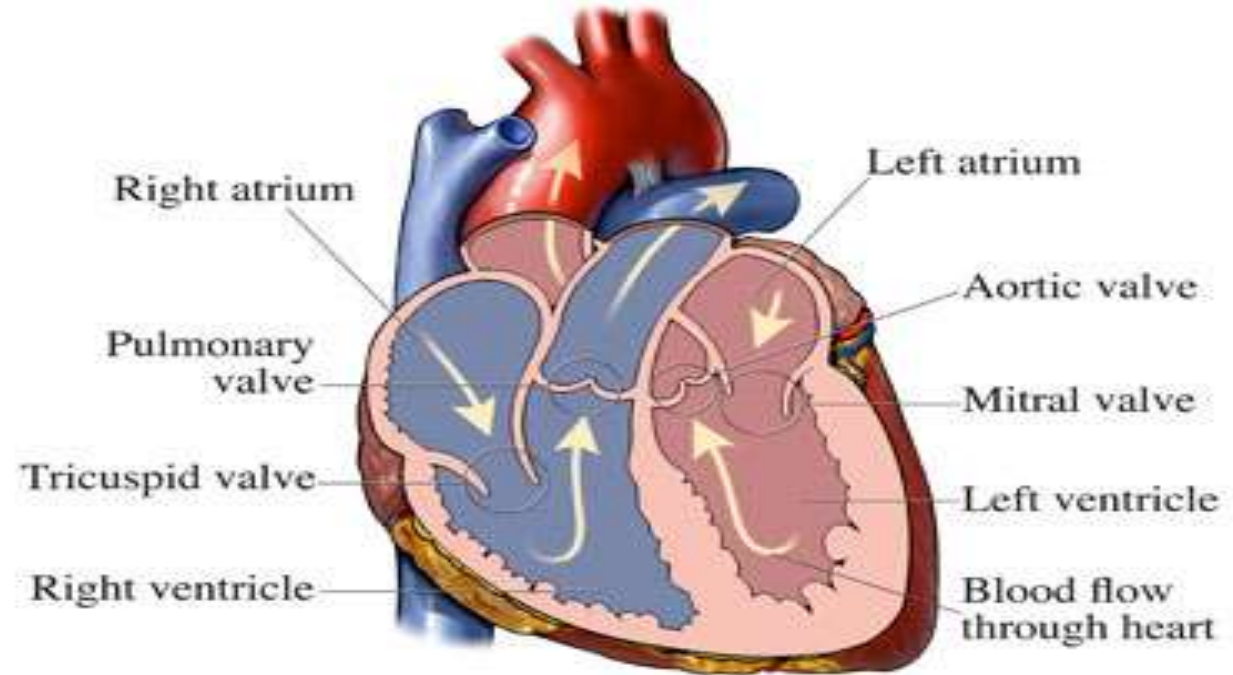
VALVES OF THE HEART

- ATRIO VENTRICULAR VALVES
- Tricuspid valve.
- Mitral valve (Bicuspid)



VALVES OF THE HEART

- SEMILUNAR VALVES
- Pulmonary valve.
- Aortic valve.



TPMA - Thoughtful Person Marvelous Acts



CHALLENGE YOURSELF



3. Name the valves present right side of the heart.

1.

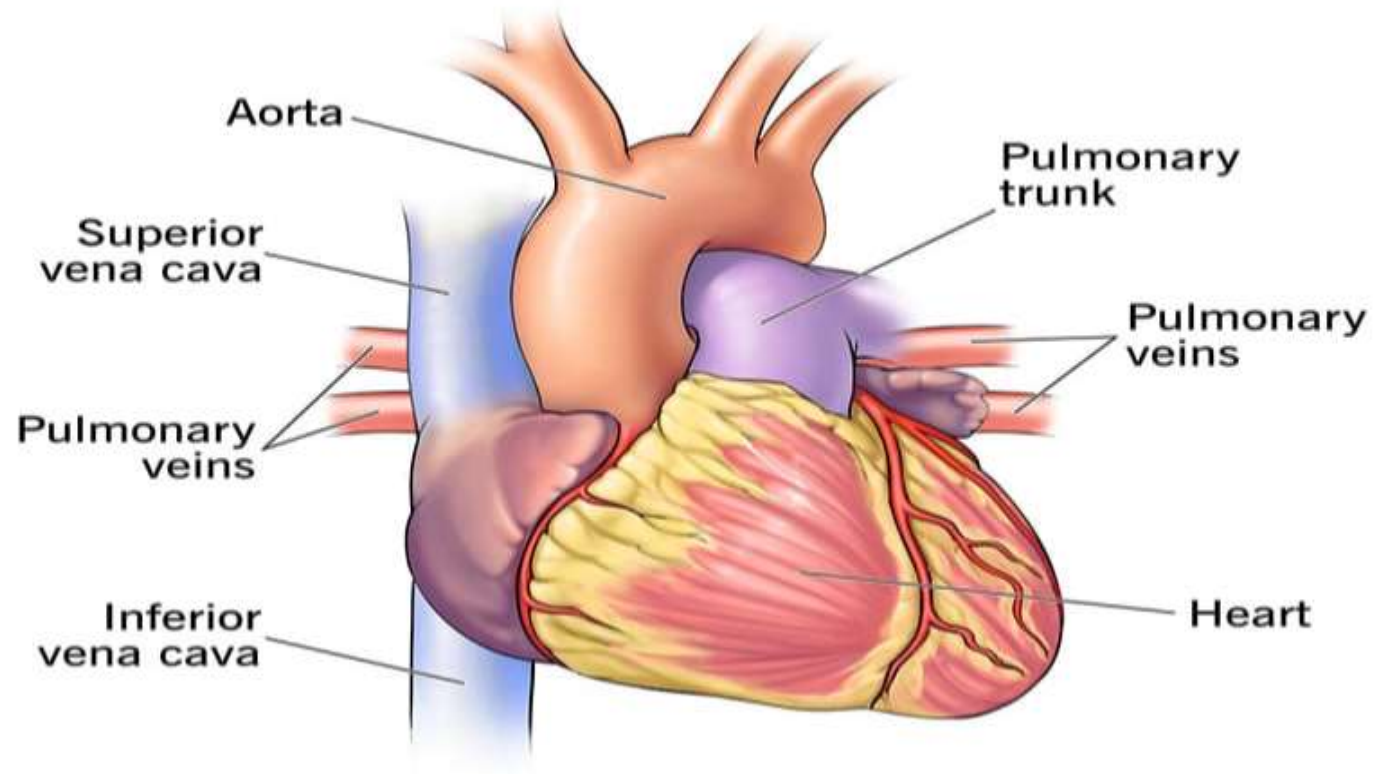
2.

4. The bicuspid valve is present in between _____

and _____

ASSOCIATED GREAT VESSELS

Great Vessels of the Heart





ASSOCIATED GREAT VESSELS



- **Superior and Inferior vena cava - RIGHT ATRIUM**
 - ✓ oxygen-poor blood from the body

- **Pulmonary arteries - RIGHT VENTRICLE**
 - ✓ The pulmonary trunk splits into the right and left pulmonary arteries

Unique feature- Pulmonary artery- De-oxygenated blood



ASSOCIATED GREAT VESSELS

- **Four Pulmonary veins - LEFT ATRIUM**

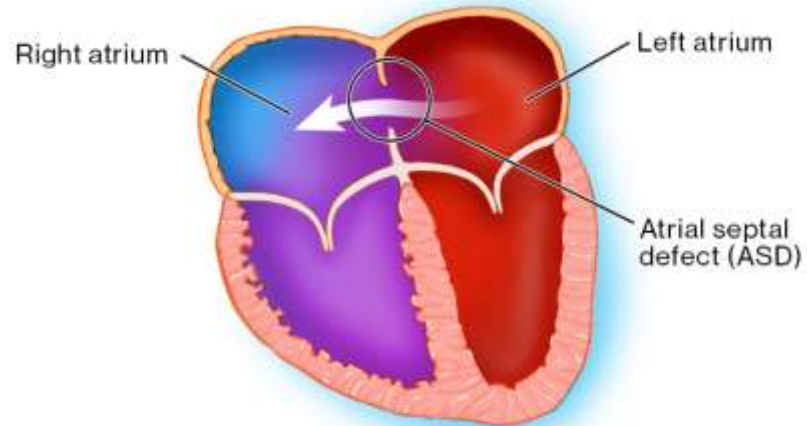
- ✓ Oxygen-rich blood

- **Aorta- LEFT VENTRICLE**

- ✓ Blood pumped out of the heart

Unique feature- Pulmonary veins - Oxygenated blood

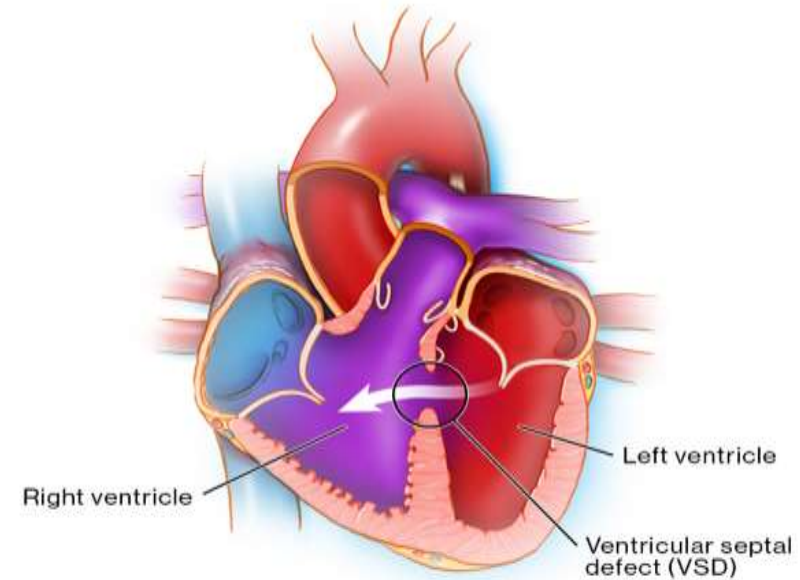
ATRIAL SEPTAL DEFECT



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- Oxygenated blood
- De-oxygenated blood
- Mixed blood

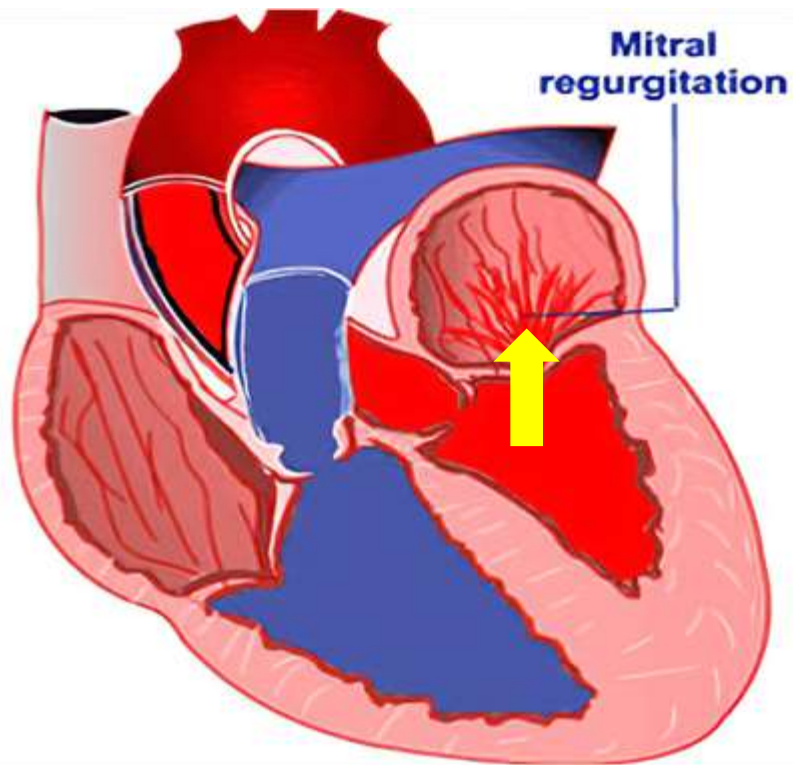
VENTRICULAR SEPTAL DEFECT



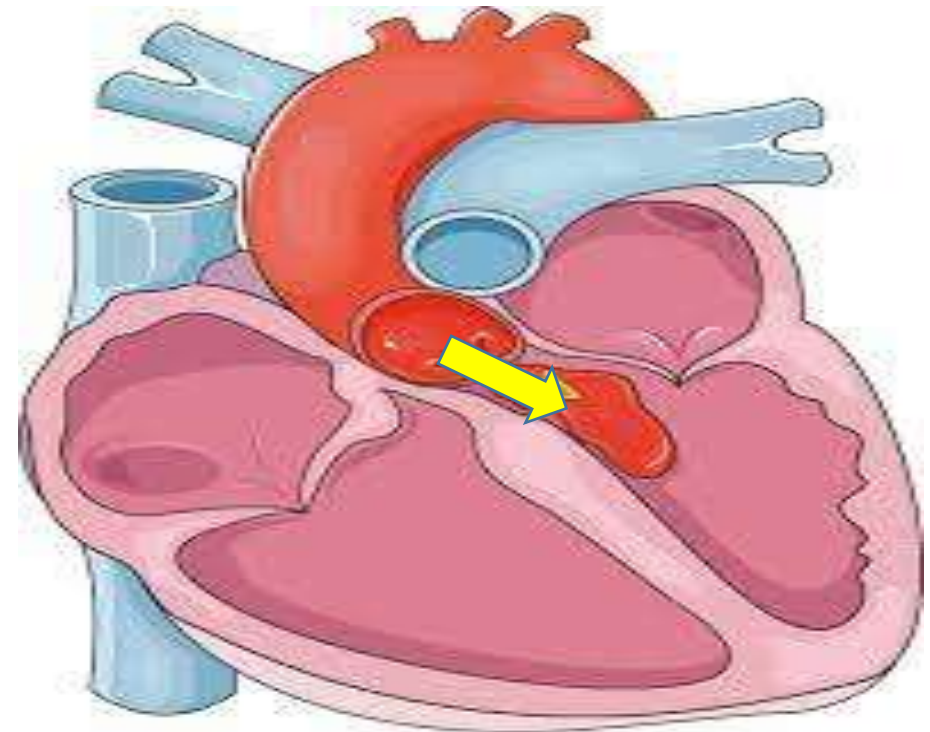
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- Oxygenated blood
- De-oxygenated blood
- Mixed blood

MITRAL VALVE REGURGITATION



AORTIC VALVE REGURGITATION





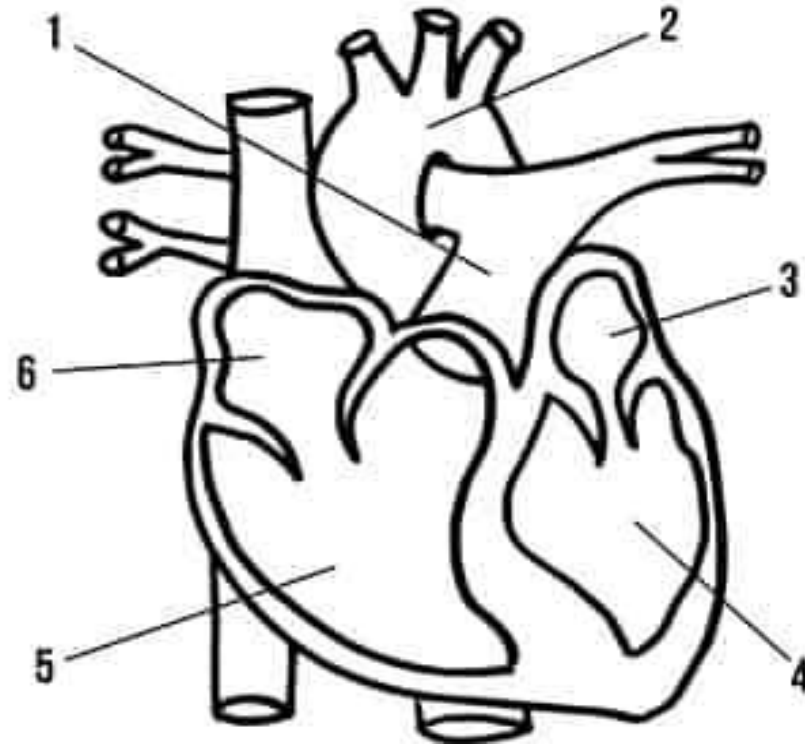
CONCLUSION



- Circulatory System is an essential and complicated system composed of vital organs and a vast network of blood vessels.
- Understanding the physical structure of these organs are mandatory for providing care to the patients .
- These various organs are interrelated with the structural formation and their action is also interrelated

LET THE HEART ROCK !!

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____





REFERENCE



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- ❑ Nachiket Dr Shankar “**Textbook and Workbook of Applied Anatomy and Applied Physiology for Nurses**” Elsevier Publication 2nd Edition.

- ❑ Anderson RH, Ho SY, Becker AE. 2000. Anatomy of the human atrioventricular junctions revisited. *Anat Rec* **260**: 81– 91.

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