

## \* Cardiovascular System \*

→ The cardiovascular system consists of three interrelated components.

- i) Blood
- ii) Heart
- ii) Blood vessels.

→ The Blood is a liquid connective tissue — three main property & function of Blood

i) Transportation — Blood cells, oxygen, carbon dioxide, Nutrients, Hormones. etc —

ii) Regulation — maintains Homeostasis in all Body fluid.  
— Regulation to PH, Temperature.

iii) Protection — clotting property, Help in protection to various disease by WBC —

## \* The circulatory system —

i) Systemic circulation

— oxygenated blood is pumped from the heart to the body and deoxygenated blood is back to the heart.

ii) Pulmonary circulation

— Deoxygenated blood is pumped from the heart to the lungs and returns oxygenated blood from the lungs to the heart.

## \* VASCULAR System.

i) Arteries - carry Blood from Heart to Body part

ii) Arterioles - Smallest arteries are called arterioles.

iii) Capillaries - Diameter 100  $\mu$ m.

- Very Important in Regulating Blood flow from the arteries into the capillaries.

iii) Capillaries - Smallest microscopic Blood vessels that connects the arterioles to venules.

- Diameter 4-10  $\mu$ m

- found the near every cell of Body But more metabolic activities are higher

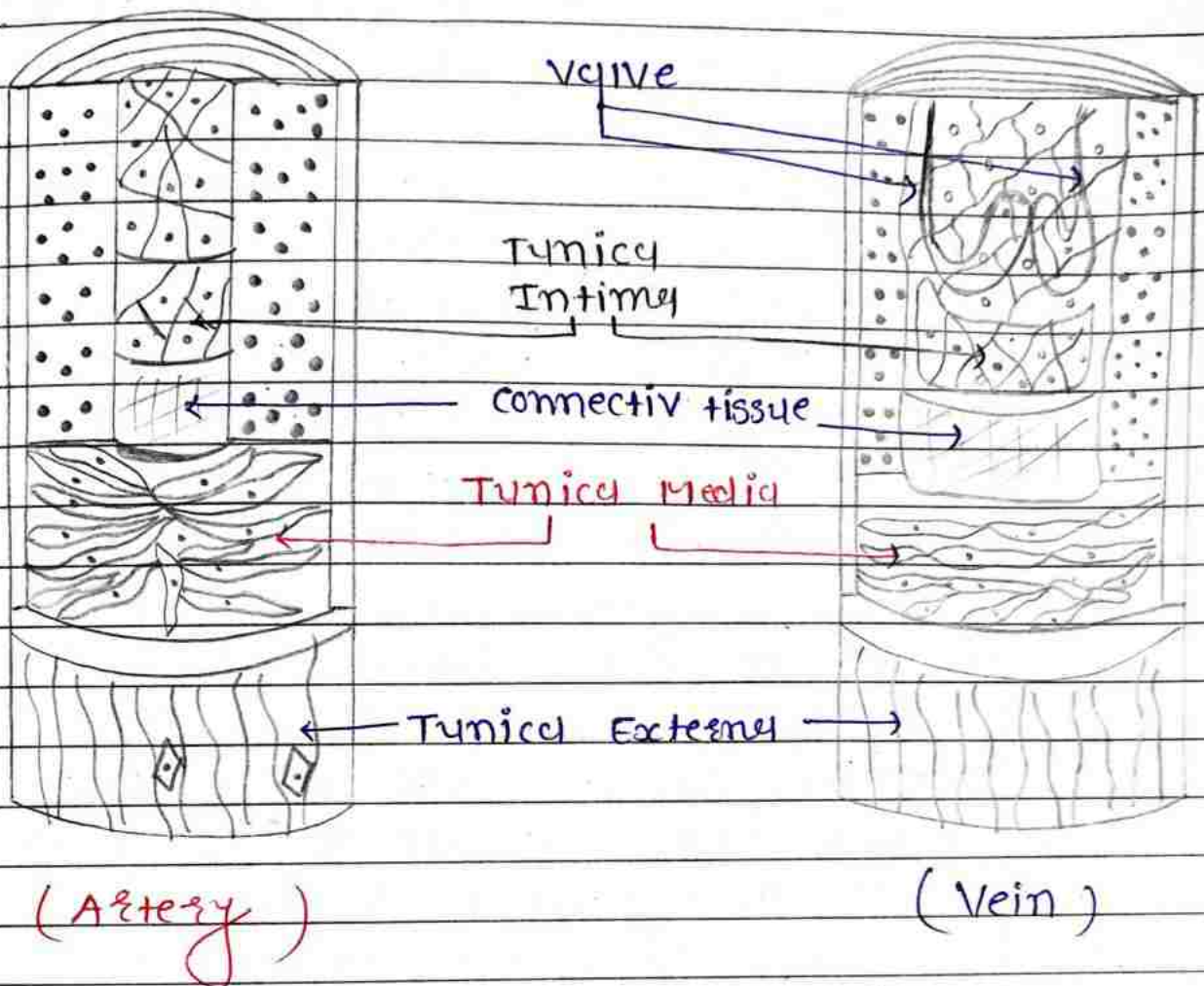
→ The wall of capillary is formed by endothelial cells which are lined outside by Basal lamina of glycoprotein

iv) Venules - Smallest veins are called Venules.

v) Veins - carry Blood from Body part to Heart.

→ Sinusoids :- Incomplete at several place eg. Hepatic, spleen etc.

→ Anastomoses :- union among the two or more arteries is called Anastomoses.  
- provide to alternative route



1) Tunica intima → endothelium  
 → basement membrane  
 → Internal elastic lamina

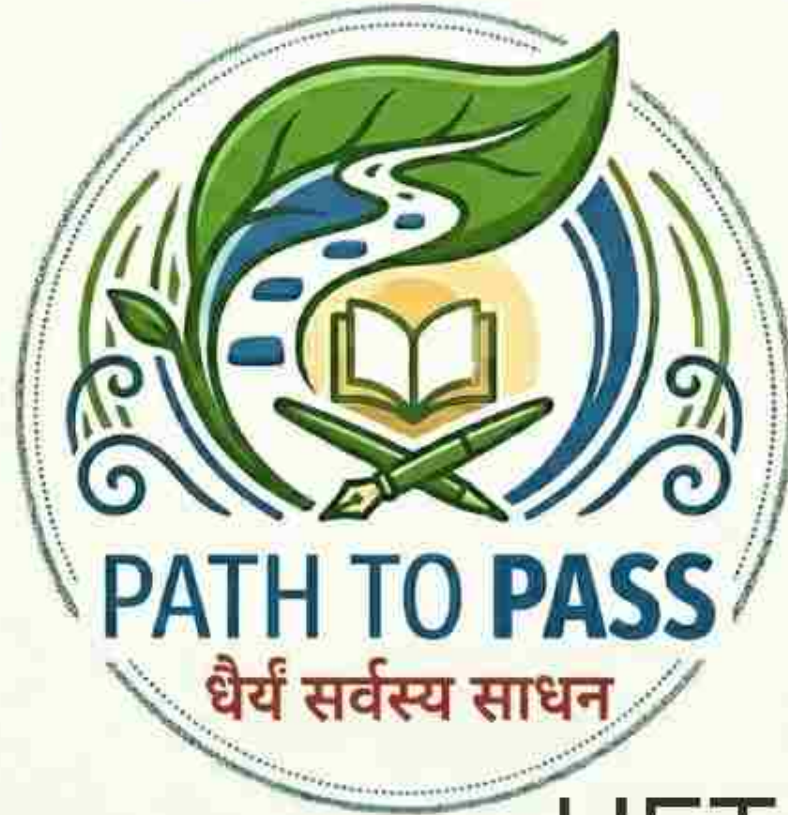
2) Tunica Media → It has elastic fibres  
 → collagen & circular  
 muscles fibres

3) Tunica adventitia → It contains  
 - elastic fibres  
 - collagen fibres  
 - nerves & capillaries

## Arteries -

## Veins -

1) Blood Transport	Away From Heart	Towards the Heart
2) Position	Deep	Superficial
3) walls	thin	thick
4) valves	absent	Present
5) T. I	thick	thin
6) T. M	thick	thin
7) T. E	thin	thickest
8) Ext: of Internal elastic lamina	Present	Absent
9) Pulsation	+ nt	- nt
10) After Death	Remain open	Collapsed



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