(4). AORTIC ARCHES IN AMPHIBIA

- As a result of the diminishing (decreasing) importance of the gills.
- The aortic arches of Amphibia have undergone modification.
- Transition from gills to lung.
- There are two different conditions in the amphibians :—

(i) the aortic arches of those that remain permanently in water and retain the gills throughout the adult life such as Urodeles and

(ii) the aortic arches of those in which gills are lost such as anurans.

(A) In Urodeles :-

- Live in water and retain external gills + lungs.
- So, aortic system shows only partial shift w.r.t. fishes.
- 4 pairs of arches (III to VI)
- Except Necturus, Siren, Amphiuma
- - V arch = incomplete, reduced or absent → only 3 pairs of aortic arches.
- III arch forms the carotid arches, IV the systemic arches.
- The lateral aorta between III & IV arches may persist as a vascular connection: ductus caroticus.
- VI arch on either side becomes the pulmocutaneous artery or arch, supplying blood to skin and lungs.

- It also retains connection with radix aorta called ductus Botalli or ductus arteriosus.
- The aortic arches do not break into afferent and efferent bronchial arteries.

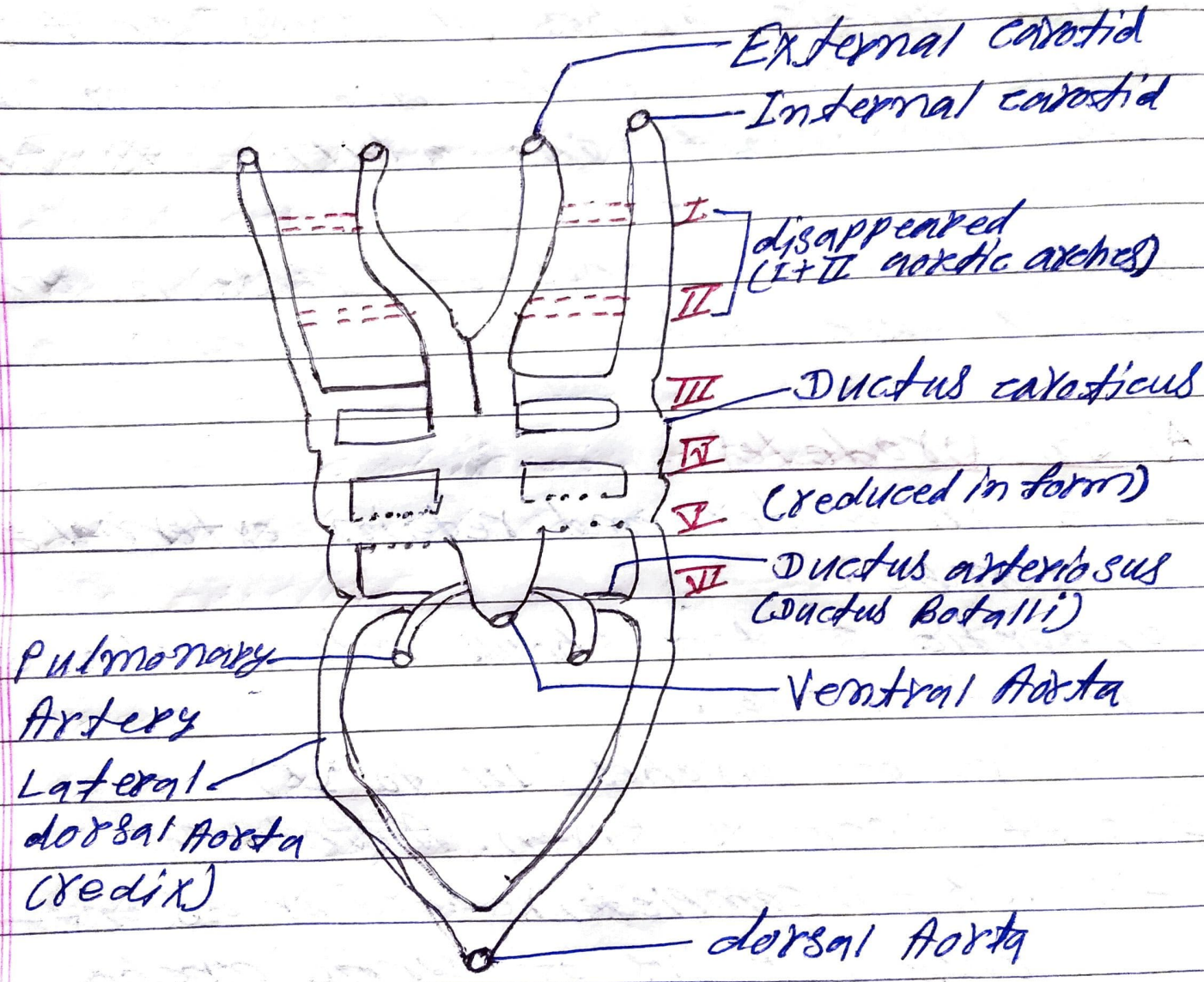

Fig:- Aortic Arches in Urodela Amphibian