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for B.Sc. part 2nd, paper 3(A),
Unit = 3 (C).

Question 55 :- General Organizations and affinities
of Dipnoi ko classify karke hue
chitko samit varnan kare ?

Answer :-
Dipnoi : Distribution, Morphology and
Affinities | Bony Fishes

Structure of Dipnoi :-

Dipnoi (Am. di-
two, proe-breathing) is a small order
of fresh water bony fishes. They
respire by gills and lungs. Dipnoi
evolved during Devonian period.
They are characterized by short
jaws, crushing plate from teeth,
internal nares, reduced exo- and endo-
skeleton, and diphysemlal tail. The
air bladder i.e., so called 'lungs'
are one or two. They are functional
with related changes in the circulatory
system and in the heart.

Morphology of Dipnoi :-

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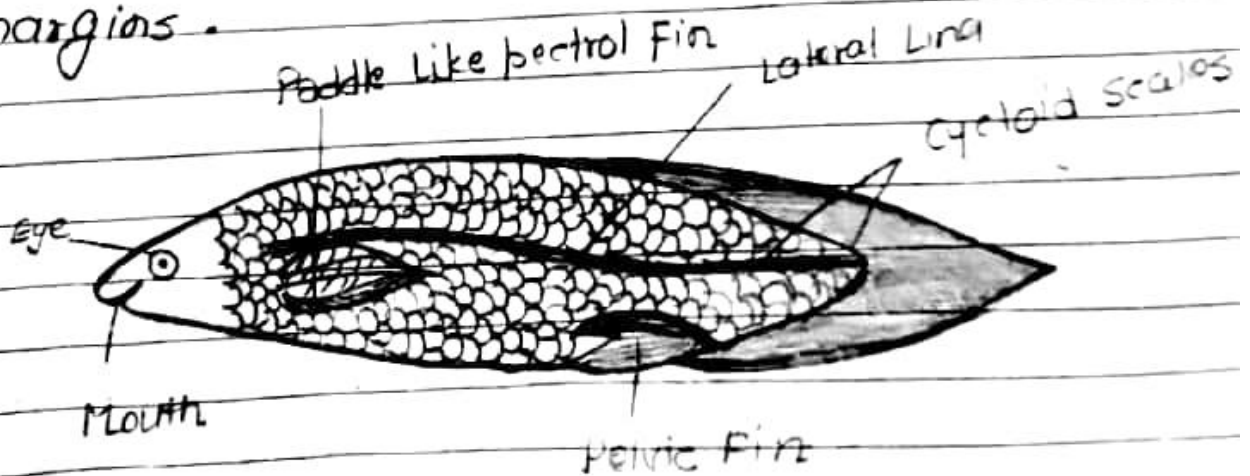
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1. Neoceratodus Johnstoni:-

The body of Dipnoi is elongated and compressed measuring about 90 to 150 cms. The body surfaces including the head and paired fins is covered with thin, bony, overlapping cycloid scales which are not regarded as denticles.

Branchial arches are four in number and bisegmented, hypobranchial cleft is open and associated with pseudo-branchial arches. The first four branchial with bony opercula. It respire exclusively by gills, and uses its single lung (Monopneumonal) only under stress. A lateral line is present. Lower jaw is with a small toothless dentary on each side. Dental plates are oval crescentic or triangular terminating in a smooth or feebly denticulated biting margins.



Neoceratodus is inactive and sluggish habit. usually lying motionless on the.

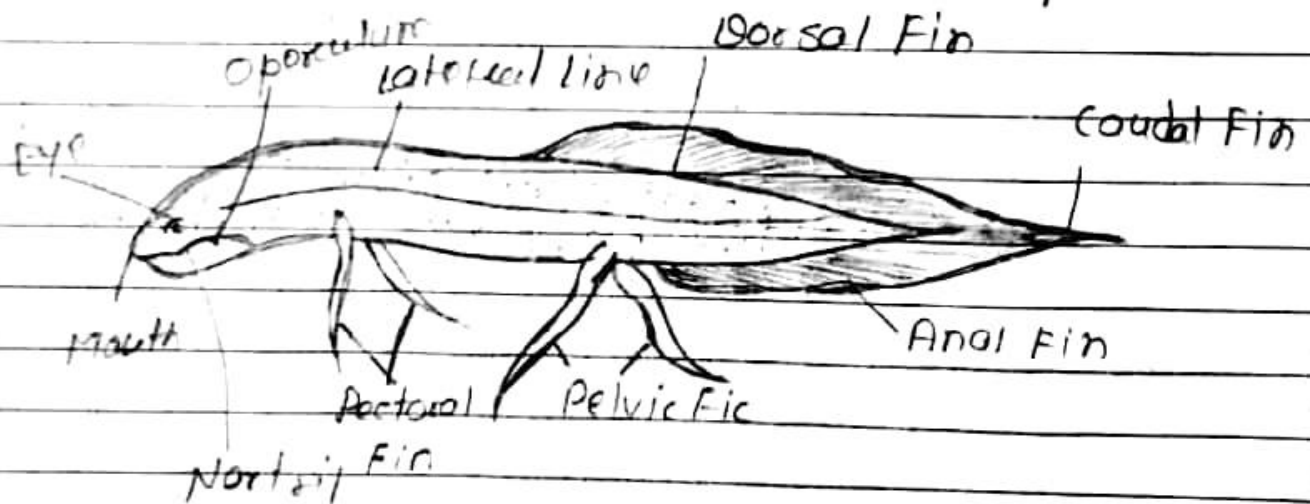
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It is carnivorous and feeds on fresh feeds on fresh water crustaceans, worms and molluscs.

Gills are weakly developed and will die if prevented from reaching surface of water to use their paired lungs (Dipnemonia). The lateral line system is well developed and is indicated on the head grooves or lines of openings. The cloacal opening lies ventrally at the root of the tail and close to it are two abdominal pores.



⇒ *Lepidostichon paradoxum*:-

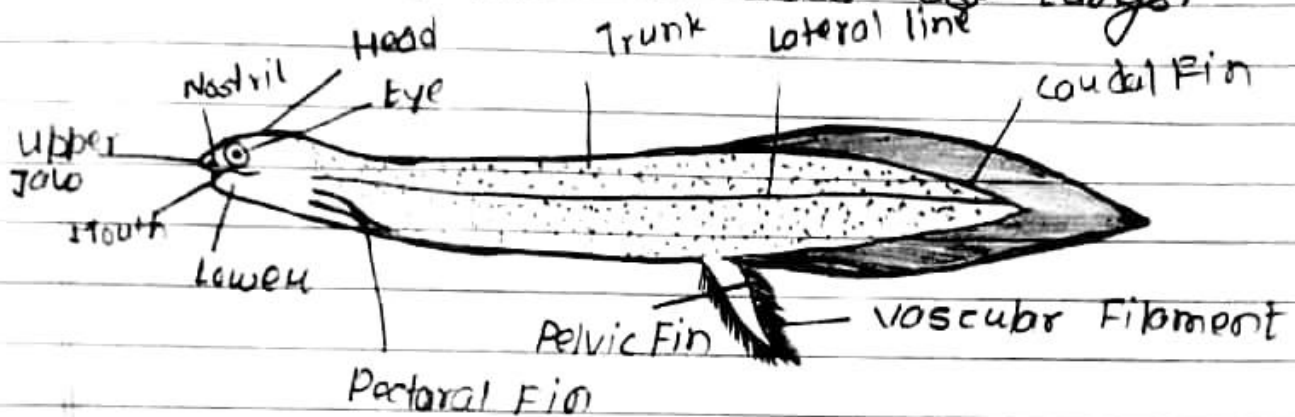
Body is elongated cylindrical and more or less eel-like. It grows to the length of about 125 cms. The skin covering the body contains very small cycloid scales. Gill slits are 5 pairs covered with operculum.

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Pelvic Fin have vascular filamentous in male during breeding season. Eyes are moderate and well developed like Neoceratodus. Like Protopterus, they survive drought by secreting mucous cocoons in mud. During aestivation the air bladder is used as lungs.



Lepidosiren is not exclusively carnivorous, food mainly comprises fresh snails and mass of algae.

Affinities of Dipnoi:-

Dipnoi form an interesting group of fishes. presence of the lungs lead to the view that they are the ancestors of amphibia. other-wards, they were considered as the connecting link between pisces and Amphibia. This view is no more supported. present view is to treat them as a specialized or present view is to that treat them as a specialized or degenerate descendants of the more primitive lobe-finned fishes to which they closely resemble.