How are members of chordata different from hemi-chordata. Name 5 Hallmarks shared by all chordates.

Ans:-

Chordata vs Hemi-chordata:-

chordates and hemi-chordates both belong to family of deutrostomes, they share some similarities but also have bunch of differences.

characteristic	Hemichordates	chordates
① Notochord (a flexible rod)	Hemichordates Lack true notochord	chordates have flexible rod like structure which supports the body and is precursor to vertebral column
2) Post anal Tail (extension of body post anal opening	Lack post-anal tail	They have post-anal tail which helps in swimming and balance

Characteristic	Hemichordates	chordates
3) Pharyngeal Slits (opening in throat region)	The pharyngeal slits are involved in suspension feeding and respiration.	They have pharyngeal slits involved in gas exchange and filter feeding.
4) Dorsal Hollow Nerve cord (Precursor to the central Nervous system)	The nerve cord is neither dorsal nor it is hollow.	Chordates have nerve cord that runs along their back.
5) Endostyle or thyroid Gland	Hemichordates donot have endostyle or thyroid gland	chordates have endostyle or thyroid gland which is involved in physiological functions such as growth and metabolism

Characteristic	Hemi-chordates	chordates
6) Examples:-	pterobrachia	Lion
7) Nervous system	Hemi chordates have epidermal Nervous system	chordates have central nervous system
8) Circulatory System	Hemi-chordates have open circulatory system Lack	They have closed circulatory system. Has
9) Blood Pigment	Blood Pigments	Blood Pigments
10) Habitat	Mostly live in marine habitats	Live in marine, freshwater as well as terrestrial habitats.

Hallmarks shared by all chordates

1) The backbone of chordates: The Notochord
The notochord is flexible rod like structure that provides support and structure to the body, allowing efficient movement.
It is also involved in signalling during embryonic development.
It is derieved from mesoderm.

2) Dorsal Hollow nerve cord:
(Embryonic thread to signalling highway)
This cord gives rise to central nervous system and the brain.
It plays important role in coordinating and transmitting signals throughout the body.

3) Tail Tales: Post anal Marvel.
Post-anal tail is involved in balance and movement, especially in aquatic chordates

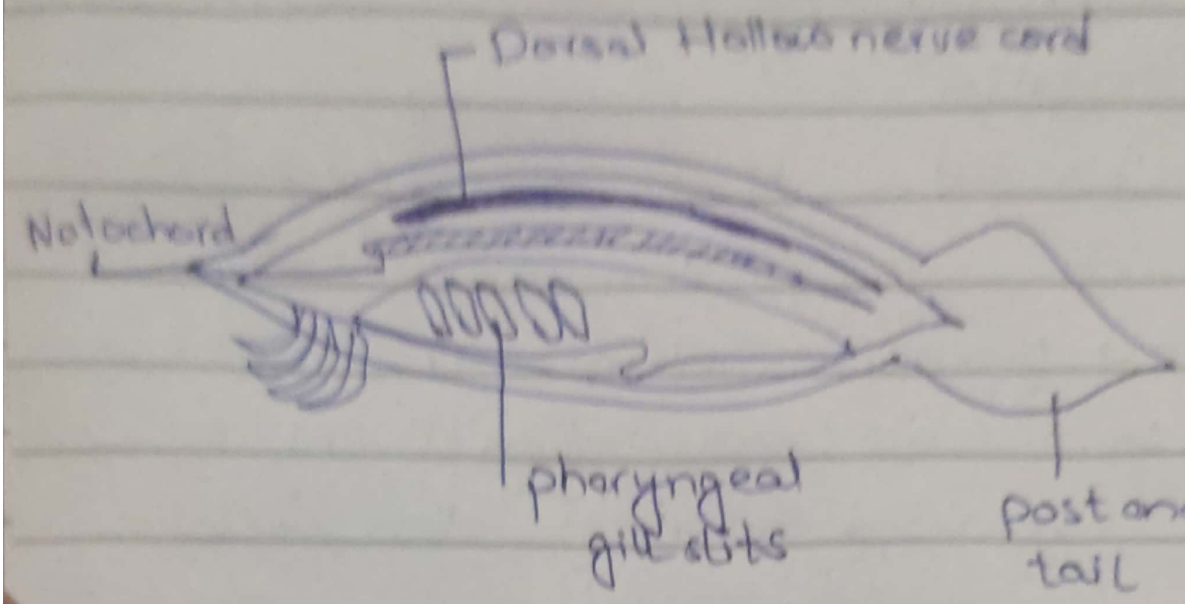
In vertebrates it might get reduced later.

4) Circulatary system: Rhythmic pulse

Chordates have a closed circulatory system with a heart that pumps blood through a network of vessels, ensuring delivery of oxygen and nutrients to cells.

5) Phoryngeal slits:

These have various functions including filter feeding, gas exchange and sometimes development of gills. In several ~~have~~ terrestrial vertebrates it is evolved to form parts of ear and throat



Chordate Structure.

References: Miller and Harley, Zoology. 8th editio

For Examiner

- Was it okay to describe differences using columns Yes ☐, No ☐
- Is it okay to mention reference at the end Yes ☐, No ☐
- Kindly Give marks and suggestions.

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