

## Unit 1

### Diversity In the Living World.

#### Chapter - 1 The Living World.

Q.No. 1 Define & understand following terms.

#### ① Phylum :-

→ Phylum is higher than category than that of class.

- classes comprising animals like fishes, amphibians, reptiles, birds along with mammals constitute the next higher category called phylum

- All these are based on the common feature like presence of notochord, & dorsal hollow neural system. Phylum chordata.

- In case of plant classes with a few similar characters are assigned to a higher category called Division.

#### ② Order :-

- Generally order & other higher taxonomic categories are identified based on the categories aggregates of characters

- order being a higher category.

- Is the assemblage of families which exhibit a few similar characters.

- A similar characters are less in number as compared to different genera include in a family

- The plant families like Convolvaceae Solanaceae are included in the order.



### ③ Class :-

- This category are related to order
- For example, order primata comprising monkey, gorilla, & gibbon is placed in class. mammalia along with order Carnivora, that includes animal like tiger, cat & dog, are assigned to a higher category called division.

### ④ Family :-

- Family has group of related with still less number of similarities as compared to genus & species.
- Families are characterised on the basis of both vegetative & reproductive features of plant species.
- For eg. the families Felidae, Ursidae etc come under one order Carnivor.

### ⑤ Genus :-

- A category that is place above species as they consist of group of related species.
- genera are aggregates of closely related species.
- For example potato & brinjal are two different species but both belong to the genus Solanum.



## Q. No-2 What are Taxonomic categories?

- The category is part of overall taxonomic arrangement if it is called the taxonomic category.
- all categories together constitute the taxonomic hierarchy.
- Each category referred as a unit of classification, in fact represent a rank & are commonly termed as taxon.

Taxonomic categories & hierarchy can be illustrate by an example.

- Insect represent a group of organism sharing common features. like three pairs of jointed legs.
- It means insect are recognisable concrete object which can be classified. & thus were given a rank or category.
- These taxonomic category are distinct biological entities & not merely morphological aggregates.
- Taxonomical studies of all known organism have led to the development of common categories such as kingdom, phylum or division, class, order, family, genus & species.
- This help in identifying similarities & dissimilarities among the individuals of the same kind of organisms as well as other kind of organisms.



### Q. No. 3. Explain Diversity in the living world.

→ There is need to standardise the naming of living organisms such that a particular organism is known by the same name all over the world. This process is called Nomenclature.

- Nomenclature or naming is only possible when the organism the name is attached to this identification.
- Biologists follow universally accepted principles to provide scientific name to know organisms. Each name has two components. Generic name & specific epithet. This system of providing a name with two components called Binomial Nomenclature.
- Based on characteristics all living organism is can be classified into different taxa. This process of classification is taxonomy.
- External, & internal structure, along with the structure of cell development process & ecological information of organisms are essential & form the basis of modern taxonomic studies.