CLASSIFICATION OF ORGANISMS.

Organisms are classified on the basis of the most obvious characters. Those with similar characters are placed in a group. Then the groups with some common features are placed in still larger groups.

* Classification — Systematic arrangement of organisms into various groups on the basis of similarities and differences.

* Aim of classification :- The aim of classification is to identify and arrange organisms in such a manner that they fall into natural groups.

Advantages of classification

1. It makes the systematic study of the wide variety of organisms easier.

2. It gives a clear picture of all organisms

3. It also says about the relationships between various organisms.
4. It provides base for various branches of Biology as Ecology, Morphology, physiology.
5. It helps to map the Flora and Fauna in different parts of the world.

Basis of classification.

Different characteristics are used to determine the various levels (hierarchy) of classification.

- characteristics of organisms are their shape, size, structure, functioning of body parts.
- variations in their appearance, body design and behaviour form the basis of classification.
- In order to classify organisms characteristics starting from the nature of cell as the

primary characteristic — Are the organisms Prokaryotic (without true nucleus) or Eukaryotic (with true nucleus)

- Being a unicellular or Multicellular organism is the next basic feature of classification
- Are the organisms capable of synthesizing food or are they depend on others.
  (Autotrophic or Heterotrophic)
- Further classification depends on the various levels of body organisation

Classification And Evolution.

Charles Darwin, an English Naturalist, First described the idea of evolution in his book 'Origin of Species' published in 1859.

According to him, most life forms that we see today have developed by an accumulation of changes in body design over a period of time through Natural selection.

- Classification depends on Evolution.

Complexity occured / occuring in structure of organisms. New forms (organisms) are more complex than their ancestral forms. (From which they evolved)

- order organisms are called the primitive or lower organisms, which have simple body design.

- Younger / recently produced organisms are supposed as advanced / higher organisms which have complex body designs.

Important Terms Related with chapter

1. **Taxonomy** → Taxonomy is the branch of biology which deals the theory and practice of classifying organisms.

2. **Biodiversity** → Flora (Plants) and Fauna (Animal) of a region is called biodiversity of that region.

3. **Megadiversity** → The region in which there are large numbers of bidiversity, called Megadiversity. These regions fall in between tropic of Cancer to tropic of Capricorn.
   e.g of Megadiversity's regions:-
   India, China, Brazil, Medagaskar
   e.t.c

4. **Nomenclature** → It is the method of naming organisms, in which the scientific name of organism has two components — genus and species.