

#### 4.1INTRO-DEFINITION: GENETIC, SPECIES AND ECOSYSTEM BIODIVERSITY

- **Biological diversity refers to the variety and the number of living organisms** present in an ecosystem.
- **Biodiversity** refers to that part of nature which includes **all forms of life** such as **plants, animals and microorganisms**.
- **These life forms vary in shape, size and color.**
- Biological Diversity defines biodiversity as:"the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems.
- **" Diversity is a rule of nature and the policy of the habitat. So, there is difference of genes within and between the species and also diversity of ecosystems.**
- It is impossible to have a species with nil diversity.

Types of diversity :

##### Genetic diversity

- **"The genetic variation existing within a species is called genetic diversity".**
- Each species of living beings store an immense amount of genetic information.
- The number of genes present in a species differs from those present in another species.
- A population is able to adapt to its environment and respond to its natural selection due to its genetic diversity.
- A species with more genetic diversity can adapt better to the changing environmental conditions.
- A species with lesser genetic diversity results into uniformity.

##### Species diversity

- **Species diversity refers to the variety of species within a region.**
- It includes the full range of species in the region, from microorganisms to macro organisms.

- Species are distinct units of biodiversity, each of which have specific role in an ecosystem.
- Therefore, loss of a species affects the ecosystem as a whole.

### **Ecosystem diversity**

- (Ecological ecosystem) diversity is the variety of biological communities, such as forests, deserts, grasslands and streams that interact with one another and with their physical and chemical (nonliving) environments.
- It relates to the different forms of life which are present in any one particular area or site, in more precise terms, it concerns the different species of a particular genus which are present in an ecological community.