



মহাশিক্ষা বিভাগে নতুন স্কুল (সংস্কৃত)

DEPARTMENT OF EDUCATION (S)

Government of Manipur

Chapter 13

ORGANISMS AND POPULATIONS

Ecology is the study of the relationships of living organisms with the abiotic (physico-chemical factors) and biotic components (other species) of their environment. It is concerned with four levels of biological organisation- organisms, populations, communities and biomes.

Temperature, light, water and soil are the most important physical factors of the environment to which the organisms are adapted in various ways.

A population is a group of individuals of a given species sharing or competing for similar resources in a defined geographical area. Populations have attributes that individual organisms do not- birth rates and death rates, sex ratio and age distribution.

Populations grow through births and immigration and decline through deaths and emigration. When resources are unlimited, the growth is usually exponential but when resources become progressively limiting, the growth pattern turns logistic. In either case, growth is ultimately limited by the carrying capacity of the environment.

In nature populations of different species in a habitat do not live in isolation but interact in many ways. Depending on the outcome, these interactions between two species are classified as competition (both species suffer), predation and parasitism (one benefits and the other suffers), commensalism (one benefits and the other is unaffected), amensalism (one is harmed, other unaffected) and mutualism (both species benefit).