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CHAPTER

UNIT - V

Organisms and Populations



Save nature – save our future.

Chapter Outline

- 10.1. Organism and its Environment
- 10.2. Habitat
- 10.3. Major Abiotic Components or Factors
- 10.4. Concept of Biome and their Distribution
- 10.5. Responses to abiotic factors
- 10.6. Adaptations
- 10.7. Populations
- 10.8. Population attributes
- 10.9. Population age distribution
- 10.10. Growth models / Curves
- 10.11. Population regulation
- 10.12. Population interaction



Learning Objectives

To gain knowledge / insight about:

- The local and geographical distribution - abundance of organisms.
- Temporal changes in the occurrence, abundance and activities.
- Interrelationship between organism in population and communities.
- Structural adaptation and functional adjustment of organisms to their physical environment.
- The evolutionary development of all these interrelations.
- Population growth, models, regulation.
- Animal associations – intraspecific, interspecific.



The word 'ecology' is derived from the Greek term 'oikos', meaning 'house' and 'logos', meaning 'study'. Thus, the study of the environmental 'house' includes all the organisms in it and all the functional processes that make the house habitable.

The study of ecology encompasses different levels-organism, population, community, ecosystem, etc., In ecology, the term population, originally coined to denote a group of people is broadened to include groups of individuals of any one kind of organism. Community in the ecological sense (designated as 'biotic community') includes all the populations occupying a given area. The community (Biotic) and the non-living environment (Abiotic) function together as an ecological system (or) ecosystem. Biome is a term in wide use for a large regional or sub continental system characterized by a major vegetation type. The largest and most nearly self-sufficient biological system is often designated as the Ecosphere, which includes all the living organisms of the Earth, interacting with the physical environment to regulate their distribution, abundance, production and evolution.