

Preface

This book provides comprehensive insights into the field of biodiversity. It attempts to understand the multiple branches that fall under this discipline and how such concepts have practical applications. Biodiversity refers to the various species of animals, plants, insects that are present on the different ecosystems on Earth. It includes topics like species variation, genetic variation and ecosystem variation. Biodiversity is an upcoming field of science that has undergone rapid development over the past few decades. The different types of biodiversity are terrestrial and marine biodiversity. This book will give detailed information about both of the above mentioned topics along with other ones. The textbook aims to serve as a resource guide for students and contribute to the growth of the discipline.

A detailed account of the significant topics covered in this book is provided below:

Chapter 1- There exist several species of flora and fauna on this Earth. Biodiversity refers to the numerous species, ecosystems, habitats and the genetic variations that exist in organisms. This chapter is an overview of the subject matter incorporating all the major aspects of biodiversity. There is a section dedicated to the topic of ecosystem as well.

Chapter 2- The chapter strategically encompasses and incorporates the major components and key concepts of biodiversity and provides a complete understanding of them. The topics discussed in this chapter are alpha diversity, extinction, defaunation, extinction event, snowball Earth, endemism and biodiversity hotspot. This chapter is a compilation of the various branches of biodiversity that form an integral part of the broader subject matter.

Chapter 3- Species can be classified according to their geological availability and the threat that humans pose to them. The chapter discusses the various types of species classification like rare, threatened, extinct, keystone, indicator, umbrella, flagship, introduced and invasive species. This chapter emphasizes about the need for preservation and conservation of species while also discussing the role that different species play in maintaining ecological balance.

Chapter 4- Human beings are one of the biggest threats to biodiversity. Human activity has led to habitat destruction, extinction of several species, pollution, climate change, overexploitation, human overpopulation etc. This chapter discusses the threats to biodiversity with special reference to these topics. One is able to understand the impact humans have on the environment by their day-to-day activities.

Chapter 5- To mitigate the damage to Earth's biodiversity, local governments have taken counter measures like the opening of animal sanctuaries, national parks, biodiversity banking, biodiversity offsetting and mitigation banking. These measures have begun a movement in the right direction and in this chapter readers are informed about how these steps have been carried out.

Chapter 6- On a global scale, there are several organizations in place to help safeguard biodiversity. There are also many treaties and agreements in place like the Convention on Biological Diversity, Cartagena protocol on Biosafety, Nagoya Protocol and the Biodiversity Indicators Partnership. This chapter comprehensively details all these initiatives and informs the reader about the objectives of each.

I would like to make a special mention of my publisher who considered me worthy of this opportunity and also supported me throughout the process. I would also like to thank the editing team at the back-end who extended their help whenever required.

Editor