

Fundamentals of Environmental Studies

Environmental Studies is a compulsory paper for undergraduate students in almost all disciplines in India. The purpose of teaching this course is to sensitize students towards environmental issues. The course introduces students to the fundamental principles of environmental science, ecology and allied topics including policy, law, pollution control, economics and natural resource management.

This book provides detailed discussion on fundamental concepts and issues – including global warming, acid rain, ozone layer depletion, nuclear accidents and nuclear holocaust – related to the environment. Focussing on the immediate need for public awareness, the book discusses various natural resources such as water, land, forests, food and mineral, and the problems associated with them. Using examples, it introduces and explains different types of ecosystems, biogeochemical cycles and laws of thermodynamics. It also contains chapters on environmental pollution and waste management that visit important topics like air pollution, water pollution, noise pollution, waste water treatment and solid waste management in detail.

Case studies, multiple choice questions, short questions and essay type questions are interspersed throughout the book for assessment of learning achievements.

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*Dedicated to
our Parents and all our Teachers*

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Preface

Environmental studies is not just another term paper that students are expected to rush through. On the contrary, it is much more potent in its content and its proper understanding will not only help young learners live their lives in the most sustainable manner, but will also help them make a difference and contribute to the reversal of many of the ailments that afflict Mother Earth.

Our environment, which has been shaped over millennia, is today threatened, primarily because of man's greed and wantonness. Indiscriminate burning of fossil fuels and a mad haste for development over the last three centuries have played havoc with the fragile ecosystems, at places irretrievably. Environmental studies is thus gaining in importance as it not only promises a holistic view of related issues, but is also capable of pointing out human follies and providing answers for a cleaner, greener and more prosperous future world order.

The paper on which this book is printed, the wooden desk on which you are now studying the book, the electricity that is propelling the ceiling fan, the pen that you are using to take down notes – everything around us has an impact on the world that we live in and therefore on our environment. By understanding what starts the domino effect leading to ultimate consequences for the environment – through Environmental Studies – we can not only strive towards a more sustainable lifestyle locally, but can actually make some difference at the planetary level by capping wastages and ensuring the optimal usage of resources.

Each drop of positive action taken by every individual will add up – through families, societies, nations – to encompass entire mankind and will one day make up the ocean that will help us restrain, even reverse the wheels of ecological destruction that we ourselves have set in motion. This is precisely why we have stressed and striven to ensure that the students understand the subject, are able to relate the knowledge they gain to the way they live and finally to empower them to be the change they will profess.

Any textbook can define, dictate and be didactic. Our effort on the contrary is not merely restricted to helping students achieve top grades. That is certainly an important function of the book. However, the core concern and main stress is on engaging young minds and igniting them, so that the students imbibe the values imparted and transform into better human beings.

Being clean, green and sustainable are not mere options. Today, we live in a world, where it is the only option and even as we write this, time is running out on the environment pushing us all towards the brink of destruction. The answer, humanity's response, will depend to a great extent on how conscious and committed future generations are. Only when a million ignited minds attain critical mass and walk the green talk will we be able to make a difference. If this book is able to create an impression on even one such young mind, we will consider having succeeded in our endeavour.

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Acknowledgments

It took more than two years to write this book. Prior to writing, it took another few years to assemble all the information that was required to plan and start writing the chapters. The subject is so dynamic that by the time we collected information and started writing, the policies, plan and data would often undergo revision. We have tried our level best to provide updated data, latest developments and case studies in an attempt to make the book apposite to the present day's context and of course ensure that it contains every topic in the UGC syllabus. Our additional inputs shall definitely proffer the utility of this book for students of Honours and Post Graduate courses.

First and foremost we owe a lot to our parents for their constant encouragement and suggestions throughout the period of writing. We express our apology for not being able to give them adequate time during the span of writing.

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