



# **ENVIRONMENTAL SCIENCE**

**I & II B. Pharmacy (Semester- II)  
As per PCI Syllabus**

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**Kripa Drishti Publications, Pune.**

# **ENVIRONMENTAL SCIENCE**

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## **PREFACE**

The present plight of the world as a victim to a plethora of environmental setbacks ranging from global warming, ozone layer depletion to an alarming increase in world pollution levels is threatening the existence of the most intelligent species on earth. This has been enough for both environmentalists and laymen to wake up to the indisputable importance of environmental education. Almost every sphere that man has forged into has undergone a major demarcation from what it was before to suit the needs and greed of man better. Yet this Midas touch that came into major force in the last century was not quite the answer to the big question that it put on the sustainable development of our future generations.

## **Acknowledgement**

*At times our own light goes out and is rekindled by a spark from another person. Each of us has cause to think with deep gratitude of those who have lighted the flame within us. It gives me immense pleasure to thank everyone, on my way to the success.*

*At first, I thank God for giving me the ability, the patience and the drive that reached me to this destination in my life and for showering his blessings.*

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*I am indeed grateful to all my friends for their help Shivraj, Pratik, Abhishek, Nikhil, Special thanks most helpful and precious person Digambar sir. My biggest gratitude is towards my beloved father Shri. Bhagwan M. Surve, Mother Smt. Asha B. Surve and my sisters Gouri and Tejaswini for their constant faith, support, inspiration, and blessings throughout my Book work and have supported me undemandingly.*

*I would like to thank each and every one whom I am unable to name and those who have helped me directly or indirectly.*

*With never ending humbleness, I would like to thank the Almighty for showering me with immense blessings and in presenting me with opportunities for which I will always remain grateful.*

..... **ANIKETH BHAGWAN SURVE**

## **About the Book**

The book entitled **Environmental Science (Theory)** has a flavor of its own both in scope and content distinctly different from a number of already existing text books in the market. The major trust has been to make the book more student friendly catering to the recommendations of **Pharmacy Council of India**. **Chapter in the book** is self-contained and serve as a dual teaching function to highlight the basic concepts and to relate them to Environmental problems. Topics have been explained according to the syllabus avoiding unnecessary details as per the requirement and structure of the question paper. Diagrammatic illustrations have been fully incorporated to make the concept clear a more refined way.

The subject-matter described in this book covers much of the basic Environmental science that is needed by a student who wishes to study crude drug as a main subject at degree level. Various Factors affecting environment has also been stressed, since it is highly desirable that a beginner should be able to assign Various Factors affecting environment. The arrangement of the subject-matter is based on homologous series, and, various issues are followed by discussions of their Identification as well as Analysis of environmental issues.

It is hoped that book is useful not only for the B Pharmacy students and those appearing for various entrance examinations, but will serve as a good resource in environmental science and also an exclusive pattern as detailed below has been introduced

***Authors***

## Abbreviations

Acid mine drainage (AMD)  
Acid Rock Drainage (ARD)  
Biological Oxygen Demand (BOD)  
Building Integrated Photovoltaic's (BIPV's)  
Carbon Dioxide (CO)  
Carbon Monoxide (CO)  
Carbon Nano Tubes (CNTs)  
Carbonyl Sulfide (COS)  
Cathode-Ray-Tube (CRT)  
Certified Emission Reduction (CER)  
Certified Emission Reductions (CERs)  
Chemical Looping Combustion (CLC)  
Chlorine Monoxide (ClO)  
Chloro Fluoro Carbons (CFC's)  
Clean Development Mechanism (CDM)  
Climate Savers Computing Initiative (CSCI)  
Comprehensive Assessment System for Building Environmental Efficiency-Japan (CASBEE)  
Computer Compatible Tapes (CC T)  
Configuration and Power Interface (ACPI)  
Construction Waste and Demolition Waste (C&D)  
Corporate Social Responsibility (CSR)  
Cumulative Effect Analysis (CEA)  
Designated National Authority (DNA)  
Designated Operation Entity (DOE)  
Dissolved Oxygen (DO)  
Electro-Magnetic Spectrum (EMS)  
Emissions Reductions Purchase Agreement (ERPA)  
Environmental Baseline Study (EBS)  
Environmental Impact Assessment (EIA)  
Environmental Information System (ENVIS)  
Environmental Management Plan (EMP)  
Geographical Information System (GIS)  
GIS (Geographical Information System)  
Global Warming Potential (GWP)  
Green Building Council (GBC)  
Green Building Program (GBP)  
Greenhouse Gases (GHGs)  
Growth with Resource Enhancement of Environment and Nature (GREEN)  
High Density Poly Ethylene (HDPE)  
Hydro Fluorocarbons (HFCs)  
Indoor Air Quality (IAQ)  
Institutional Waste, Commercial Waste, and Industrial Waste (IC&I)



Intergovernmental Panel on Climate Change (IPCC)  
International Union Conservation of Nature (IUCN)  
Leadership in Energy and Environmental Design (LEED)  
Light-Emitting Diodes (LEDs)  
Liquid-Crystal-Display (LCD)  
Low Density Poly Ethylene (LDPE)  
Metric Tons of Carbon Equivalent (MMTCE)  
Ministry of Environment and Forests (MoEF)  
Municipal Solid Waste (MSW)  
Mutually Assured Destruction (MAD)  
Nanotechnology (NT)  
National Bureau of Plant Genetic Resources (NBPGR)  
National Management Information System (NIMS)  
Ozone-Depleting Substances (ODS)  
Per Fluorocarbons (PFCs)  
Polluter Pays Principle (PPP)  
Pollution Control Boards (PCBs)  
Poly Vinyl Chloride (PVC)  
Polyethylene Terephthalate (PET)  
Polypropylene (PP)  
Polystyrene (PS)  
Power Supplies (PSUs)  
Production (P)  
Project Design Document (PDD)  
Project Elephant (PE)  
Reinforced Cement Concrete (RCC)  
Roof Top Rain Water Harvesting (RTRWH)  
Site Impact Prediction (SIP)  
Sulfur Hexafluoride (SF<sub>6</sub>)  
Tata Energy Research Institute (TERI)  
Thousand Tons Per Day (TPD)  
Traditional Intensive Agriculture (TIA)  
Traditional Subsistence Agriculture (TSA)  
Ultraviolet Light Waves (UV)  
UN Framework Convention on Climate Change (UNFCCC)  
United Nations Environmental Programme (UNEP)  
United States Green Building Council (USGBC)  
Utilized (U)  
Verified Market credits (VERs)  
Volatile Organic Compounds (VOCs)  
Wider Area Prediction (WAP)

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