



**Faculty of Pharmacy**  
**Bachelor of Pharmacy (B. Pharm.)**  
**(W. E. F.: 2023-24)**  
**Document ID: SUTEFPHB-01**

<b>Name of Faculty</b>	:	Faculty of Pharmacy
<b>Name of Program</b>	:	Bachelor of Pharmacy
<b>Course Code</b>	:	2BPH06
<b>Course Title</b>	:	Environmental Sciences
<b>Type of Course</b>	:	Value Added Course
<b>Year of Introduction</b>	:	2023-24

<b>Prerequisite</b>	:	Zeal to learn the subject
<b>Course Objective</b>	:	1. Understanding the environmental system and status of it's changes on living organisms on earth. 2. Imparting scientific study of physical, biological, cultural and social factors of environment and its impact on living organisms. 3. Create awareness and acquire skill to help concerned individuals in solving environmental problems.
<b>Course Outcomes</b>	:	At the end of this course, students will be able to:
	CO1	To <b>gain</b> the knowledge about different Natural Resources. To expand their knowledge regarding problems associated with different Natural Resources.
	CO2	To know the Classification of ecosystem and their composition. To describe problems associated with ecosystem and their depletion.
	CO3	To know and analyse causes and solution of different types of pollution

**Teaching and Examination Scheme**

Teaching Scheme (Contact Hours)			Credits	Examination Marks				
				Theory Marks		Practical Marks		Total Marks
L	T	P	C	SEE	CIA	SEE	CIA	
03	00	00	03	50	25	00	00	75

*Legends: L-Lecture; T-Tutorial/Teacher Guided Theory Practice; P - Practical, C - Credit, SEE - Semester End Examination, CIA - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)*

**Course Content**

Unit No.	Topics	Teaching Hours	Weightage	Mapping with COs
1	The Multidisciplinary nature of environmental studies Natural Resources Renewable and non-renewable resources: Natural resources and associated problems a) Forest resources; b) Water resources; c) Mineral resources; d) Food resources; e) Energy resources; f) Land resources: Role of an individual in conservation of natural resources.	10	33.33 %	CO1
2	Ecosystems Concept of an ecosystem. Structure and function of an ecosystem. Introduction, types, characteristic features, structure and function of the ecosystems: Forest ecosystem; Grassland ecosystem; Desert ecosystem; Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)	10	33.33 %	CO2
3	Environmental Pollution: Air pollution; Water pollution; Soil pollution	10	33.33 %	CO3

**Suggested Distribution of Theory Marks Using Bloom's Taxonomy**

Level	Remembrance	Understanding	Application	Analyse	Evaluate	Create
Weightage	0	66.67	0	33.33	0	0

*NOTE: This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.*

**Suggested Learning Websites**

Sr. No.	Name of Website
1	<a href="https://pci.nic.in/pdf/Syllabus_B_Pharm.pdf">https://pci.nic.in/pdf/Syllabus_B_Pharm.pdf</a>
2	<a href="https://www.aicte-india.org/downloads/bpharma.pdf">https://www.aicte-india.org/downloads/bpharma.pdf</a>
3	<a href="https://www.ipc.gov.in/">https://www.ipc.gov.in/</a>
4	<a href="https://www.ayush.gov.in/">https://www.ayush.gov.in/</a>
5	<a href="https://ayudmla.gujarat.gov.in/home.php">https://ayudmla.gujarat.gov.in/home.php</a>
6	<a href="https://www.fda.gov/">https://www.fda.gov/</a>
7	<a href="https://www.pharmacopoeia.com/">https://www.pharmacopoeia.com/</a>



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8	<a href="https://ipapharma.org/">https://ipapharma.org/</a>
9	<a href="https://gpat.nta.nic.in/">https://gpat.nta.nic.in/</a>
10	<a href="https://drnaitiktrivedi.com/">https://drnaitiktrivedi.com/</a>
11	<a href="https://gdc4gpat.com/course/gpat/">https://gdc4gpat.com/course/gpat/</a>
12	<a href="https://niscpr.res.in/">https://niscpr.res.in/</a>
13	<a href="https://delnet.in/">https://delnet.in/</a>
14	<a href="https://ihubgujarat.in/">https://ihubgujarat.in/</a>
15	<a href="https://www.ssipgujarat.in/">https://www.ssipgujarat.in/</a>

**Reference Books**

Sr. No.	Name of Reference Books
1	Y.K. Sing, Environmental Science, New Age International Pvt, Publishers, Bangalore
2	Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.
3	Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad - 380 013, India,
4	Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p
5	Clark R.S., Marine Pollution, Clanderson Press Oxford
6	Cunningham, W.P.Cooper, T.H.Gorhani, E & Hepworth, M.T.2001, Environmental Encyclopedia, Jaico Publ. House, Mumbai, 1196p.
7	De A.K., Environmental Chemistry, Wiley Eastern Ltd.
8	Down of Earth, Centre for Science and Environment